BULLETIN OF ZOOLOGICAL NOMENCLATURE

Volume 69, part 1 (pp. 1–82) 31 March 2012

Notices

(1) Applications and correspondence relating to applications to the Commission should be sent to the Executive Secretary at the address given on the inside of the front cover and on the Commission website. English is the official language of the *Bulletin*. Please take careful note of instructions to authors (present in a one or two page form in each volume and available online (at http://iczn.org/content/guidelines-case-preparation) as incorrectly formatted applications will be returned to authors for revision. The Commission's Secretariat will answer general nomenclatural (as opposed to purely taxonomic) enquiries and assist with the formulation of applications and, as far as it can, check the main nomenclatural references in applications. Correspondence should be sent by e-mail to 'iczn@nhm.ac.uk' where possible.

(2) The Commission votes on applications eight months after they have been published, although this period is normally extended to enable comments to be submitted. Comments for publication relating to applications (either in support or against, or offering alternative solutions) should be submitted as soon as possible. Comments may be edited (see instructions for submission of comments at http://iczn.org/content/instructions-comments).

(3) Requests for help and advice on the Code can be made direct to the Commission and other interested parties via the Internet. Membership of the Commission's Discussion List is free of charge. You can subscribe and find out more about the list at http://list.afriherp.org/mailman/listinfo/iczn-list.

(4) The Commission also welcomes the submission of general-interest articles on nomenclatural themes or nomenclatural notes on particular issues. These may deal with taxonomy, but should be mainly nomenclatural in content. Articles and notes should be sent to the Executive Secretary.

New applications to the Commission

The following new applications have been received since the last issue of the *Bulletin* (volume 68, part 4, 20 December 2011) went to press. Under Article 82 of the Code, the existing usage of names in the applications is to be maintained until the Commission's rulings on the applications (the Opinions) have been published.

CASE 3580: *Exechocentrus lancearius* Simon, 1889 (Arachnida, Araneae, ARANEIDAE): replacement of the holotype by designation of a neotype. N. Scharff & G. Hormiga.

CASE 3581: *Turbo bidens* Linnaeus, 1758 (Mollusca, Gastropoda, CLAUSILIIDAE): request for setting aside the neotype designated in 2009. F.W. Welter-Schultes.

CASE 3582: *Scaris* Le Peletier & Serville, 1825 (Insecta, Hemiptera, CICADELLIDAE): proposed suppression of the genus name and all family-group names based on it. M.W. Nielson, P.H. Freytag & S.H. McKamey.

CASE 3583: *Reticulitermes flavipes* Clément et al., 1985 and related subspecific names (Insecta, Isoptera, RHINOTERMITIDAE): proposed suppression. C.D.R. Stephen & X.P. Hu.

The International Trust for Zoological Nomenclature

The International Trust for Zoological Nomenclature (the Trust) was founded in 1947 to manage the Commission's financial matters. It is a registered charity, based in the U.K. (No. 211944). At present, the Trust consists of 25 members from 13 countries. Discussion of the Trust's activities can be found in BZN **60**: supplement, pp. 1–12 (March 2003).

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Candidate Part of List of Available Names (LAN) for species in the phylum Rotifera – period of public commentary begins

Following Article 79 of the Code (Chapter 17 http://www.nhm.ac.uk/hosted-sites/iczn/code/), a committee of experts developed a *Candidate Part of the List of Available Names* for species of Rotifera from the start of zoological nomenclature to the year 2000. Details of how the *Candidate Part* was assembled are described in *Zootaxa* **3179**: 61–68 (2012) by the expert rotifer taxonomy committee of H. Segers, W.H. De Smet, C. Fischer, C. Fontaneto, E. Michaloudi, R.L. Wallace & C.D. Jersabek (http://www.mapress.com/zootaxa/2012/f/zt03179p068.pdf). Following Article 79, the *Candidate Part* is available for a year to receive public comment. Comments on the list may be made on a dedicated set of webpages at http://iczn.org/lan/rotifer, or by direct correspondence with the ICZN Secretariat (iczn@nhm.ac.uk). The year of comment begins on 31 March 2012.

The *Candidate Part* is divided into two sections. Section A includes names that are proposed to be included in the *List of Available Names*; Section B includes names of rotifers that are proposed not to be included in the LAN for reasons described in *Zootaxa* **3179**: 61–68 (2012). Comments are invited on both sections.

Case 3548

A proposal for the treatment of *Mémoires pour servir à l'histoire des insectes* by De Geer (1752–1778) and the additional volume by Retzius (1783)

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Abstract. We analysed the eight volumes of *Mémoires pour servir à l'histoire des insectes*, published between 1752 and 1778 by De Geer, and an additional volume published by Retzius in 1783. We found that none of these works was consistently binominal. A great number of names of taxa of many insect and other arthropod groups that were established in those works are currently widely accepted and used, and regarding them as unavailable would cause an unnecessary amount of confusion and taxonomical instability. De Geer (1752) is a pre-Linnaean publication and the two parts of volume 2 (1771a, b) did not contain any Latin names. We propose that the works published by De Geer (1773, 1774, 1775, 1776, 1778) and Retzius (1783) be ruled to be available as binominal works and 140 polynominal names mentioned therein be suppressed, mostly for being identified as polynominal. Among the polynominal names included in these volumes were the very commonly used names for human lice (*Pediculus humanus capitis* and *P. humanus corporis*) which De Geer regarded as different species, not as subspecies of *P. humanus*. We suggest that *P. h. capitis* be considered available and that *P. h. corporis* be suppressed (the latter being commonly regarded as a synonym of *P. h. humanus* Linnæus, 1758 in modern biology and medicine). Generic names established as compound words connected with a hyphen should generally be regarded as binominal and available, but we propose to suppress De Geer's spider names *Aranealupus, Araneaphalangium* and *Araneacancroides* for the purposes of the Principle of Priority, but not for those of the Principle of Homonymy.

Keywords. Nomenclature; taxonomy; early zoological literature; Arthropoda; Insecta; Chelicerata; De Geer; Retzius.

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1. *Mémoires pour servir à l'histoire des insectes* was a multivolume work published in eight volumes between 1752 and 1783 by the Swedish naturalist Carl De Geer (*1720, †1778) (volumes 1–7) and the Swedish naturalist Anders Jahan Retzius (*1742, †1821) (volume 8). De Geer published the first volume of the *Mémoires* in 1752, it therefore was a pre-Linnean work (Article 3.2). All names of taxa in this and

volumes 2 and 3 (De Geer, 1771a, b) were in French and therefore not available. Latin names for taxa were proposed by De Geer in the five remaining volumes between 1773 and 1778 and in the subsequent work by Retzius (1783). Besides the large number of binominal names (more than 850) described by De Geer and Retzius we identified many polynominal names of taxa, which render each of the six publications not consistently binominal under Article 11.4 of the Code, as we interpret the latter in paras. 5 and 6 below. In none of these works was binominal nomenclature consistently applied.

We herein give a brief introduction to the style of the works followed by a list of polynominal names that should not be regarded as available for nomenclature.

2. To take a decision on binominality it is necessary to understand the style of the author. De Geer's style was largely consistent throughout his last five volumes of the *Mémoires* (De Geer, 1773, 1774, 1775, 1776, 1778). The description of each species started with a French generic name (in capitals and italics), followed by a diagnosis (in French, italicised), e.g. De Geer, 1774, p. 22: '*STAPHYLIN lisse d'un noir luisant, à antennes brunes obscures & à ventre allongé*'). French diagnoses are followed by a line, in which the species are referred to by a Latin name, which is italicised and written in a smaller font.

The Latin generic names are followed either (a) by a Latin diagnosis alone (e.g. De Geer, 1774, p. 22): '*Staphylinus niger nitidus, antennis obscure fuscis, abdomine elongato*' or (b) by a specific name (in parentheses and non-italicised) followed by a Latin diagnosis (e.g. De Geer, 1774, p. 20): '*Staphylinus* (bombilius) *hirsutus niger, capite thorace abdominisque apique viridi-flavis nitidis*'. The binominal name *Staphylinus bombilius* in the above example is a newly proposed scientific name, which is indicated by the absence of a literature citation after the Latin diagnosis; assuming that the work is classified as binominal, *Staphylinus bombilius* De Geer, 1774 should be considered as an available name.

The diagnoses are often followed by citations of previous descriptions or/and illustrations (e.g. De Geer, 1774, p. 22): '*Staphylinus* (politus) *niger, thorace elytrusque nigricantibus nitidis. Linn. Faun. Ed. 2. no. 843. Syst. Ed. 12. p. 683. no. 5*'.

This name (*Staphylinus politus* Linnæus, 1758) was only cited (as from Linnæus, 1761, p. 231 and Linné 1767, p. 683), but not used as a valid name in De Geer's own classification. These scientific names could also differ from those used as valid by De Geer himself (e.g. De Geer, 1774, p. 20): '*Staphylinus* (hirtus) *hirsutus niger, thorace abdomineque postice flavis. Linn. Faun. Ed. 2. no. 839. Syst. Ed. 12. p. 683. no. 1*'.

This passage, following his own description of *Staphylinus bombilius* De Geer, 1774, indicated that he regarded *Staphylinus hirtus* Linnæus, 1758 as a synonym of his own name *Staphylinus bombilius*. From a nomenclatural point of view, De Geer established a subjective junior synonym of the Linnean name. However, the validity of this and other instances of synonymy should be judged based on an analysis of the type specimens, which has not been done for the 850 species-group names involved here.

In some cases De Geer listed references to previously published information and figures without Latin diagnoses and names (e.g. De Geer, 1774, p. 20): '*Schæff. Abhandl. von Ins. Tom. 1. p. 81. Tab. 2. Fig. 12. Icon. Ins. Tab. 36. Fig. 6*'(references to Schäffer (1764) and Schaeffer [1766]).

For some species no previous references were given. These blocks of names, diagnoses and references were followed by an often elaborate French discussion on the species and its biology, non-italicised.

From the author's style it is easy to recognize specific names that were established and used by De Geer. Such names were consistently enclosed in parentheses, were not italicised and followed the generic name at the beginning of the first line of the relevant Latin description. The names used in the literature references were printed in the same font and style, but were only cited and not used by De Geer in his own classification.

The main text body of each volume was followed by several pages of explanations of the many plates at the end of the volumes. De Geer used only French names in the explanations of the plates. No names were mentioned on the plates. De Geer's volumes did not contain an index.

3. Following De Geer's death in 1778, Retzius (1783) published a work based on the *Mémoires*, in which he gave a summary of De Geer's names, supplemented De Geer's data and introduced several new names. In the first chapter Retzius (1783, pp. III-VI) explained the taxonomic system used. This part was followed by a numerical list of the genera which he treated in the work (Retzius, 1783, pp. 7–29). Thereafter followed a numerical list of the species (Retzius, 1783, pp. 30–220). Retzius's (1783) volume did not contain any plates or figures. In the species list the name of each species was consistently given in the first line of the description block, set in italics. It was followed by a descriptive text in Latin (non-italicised), De Geer's volume and page, and the corresponding Linnean name and bibliographical reference (e.g. Retzius, 1783, pp. 102, species 552): '552. *St. bombilius*, hirsutus niger, capite thorace abdominisque apique viridi-flavis nitidis. T. 4. p. 20'. St. hirtus. L. S. N. p. 683.

The expression 'T. 4.' referred to volume 4 of the *Mémoires*. This reference was absent only in the species described by Retzius (1783) himself. In many cases Retzius (1783) referred in the last line to the name that Linnaeus had chosen for the species in his *Systema Naturae* (L. S. N.), and to the page in Linnaeus's (1767) work where the name was originally mentioned. In cases where no reference to Linnaeus was given (e.g. Retzius, 1783, p. 113, species 645), the name had been proposed by De Geer (1773, 1774, 1775, 1776, 1778) or by Retzius (1783) himself (e.g. Retzius, 1783, p. 102, species 556): '556. *St. aeneus*, glaber aeneo-viridis nitidus, abdomine pedibusque nigris. T. 4. p. 23'.

Specific names used as valid by Retzius (1783) were always mentioned at the beginning of the first line of the description blocks and (together with the abbreviated generic name) set in italics. This allows for an unambiguous identification of a specific name in this work. In some cases Retzius mentioned two names in italics in the same paragraph (e.g. Retzius, 1783, p. 156, species 999): '999. *C. carinato-punctatus*, brevirostris, antennis fractis, femoribus muticis, corpore subgloboso rufo-fusco punctis flavo-griseis, elytris carinatis. *C. griseo-punctatus.* T. 5. p. 244'.

Here only the first name *C.* [= *Curculio*] *carinato-punctatus* at the beginning was used for the taxon, whereas the other name *C.* [= *Curculio*] *griseo-punctatus* was merely cited from De Geer's work. This happened in the few cases where De Geer had used the same name for two different species and Retzius replaced one of them with a new name, in this particular case one of the two *C. griseo-punctatus* De Geer, 1775 (p. 217 and p. 244).

4. Each volume of the *Mémoires* (De Geer, 1773, 1774, 1775, 1776, 1778) and Retzius (1783) contained names that were unambiguously polynominal (totalling 140 names under the interpretation specified in the two following paragraphs), which under any current interpretation of Article 11.4 would certainly render the entire work unavailable for nomenclature. Many of the more than 800 species-group names established by De Geer and Retzius are, however, currently used for various arthropod taxa. Besides insects, De Geer (1778) and Retzius (1783) also studied Araneae, Acari, Pseudoscorpiones, Opiliones, Diplopoda, Crustacea and others. Suppressing these works or regarding them as non-binominal will threaten nomenclatural and taxonomic stability. We therefore propose to set aside the provisions of Article 11.4 and to regard the works of De Geer (1773, 1774, 1775, 1776, 1778) and Retzius (1783) as available for nomenclatural purposes. All new binominal names described therein are proposed to be treated as available.

5. De Geer used many new specific names composed of more than one word. Some of these were binominal, others were not. We did not find a precise definition for the term 'consistent application of binominal nomenclature' in the Code. In the following we intend to propose a guide for exploring the boundaries of binominal nomenclature that can be applied to this multivolume work.

The Principle of Binominal Nomenclature is generally defined in the Glossary as '*the principle that the scientific name of a species, and not of a taxon at any other rank, is a combination of two names (a binomen, q.v.); the use of a trinomen (q.v.) for the name of a subspecies and of uninominal names for taxa above the species group is in accord with the Principle. See Articles 5, 11.4*'. A binomen is defined in the same Glossary as '*the combination of two names, the first being a generic name and the second a specific name, that together constitute the scientific name of a species [Article 5.1]. Any interpolated names [Article 6] are not counted as components of a binomen*'. Accordingly, anything that deviates would not be considered binominal. However, there is little further guidance in the Code as to how the boundaries of this definition can or must be identified in practice.

In Article 11.4 ('*the author must have consistently applied the Principle of Binominal Nomenclature [Article 5.1]*') the explanation of consistent application of binominal nomenclature is reduced to the analysis of specific names, by reference to Article 5.1: '*Names of species. The scientific name of a species, and not of a taxon of any other rank, is a combination of two names (a binomen), the first being the generic name and the second being the specific name.*' The Glossary's general definition for 'name' is '*a word, or ordered sequence of words, conventionally used to denote and identify a particular entity (e.g. a person, place, object, concept)*'.

Nowhere in these definitions is it precisely stated that a specific name must not consist of, for instance, ten words, and how their sequence should or should not be ordered. This is surprising since for a long time there has been a relatively clear and commonly accepted convention among zoologists using binominal nomenclature that beyond a relatively narrowly defined limit or tolerance the use of specific names composed of several words will render a work unavailable for the purposes of zoological nomenclature. Such names, which had been widely used in the pre-Linnean literature, are commonly known as polynominal names. In the absence of a precise definition in the Code, modern taxonomists who are confronted with early zoological works seem to have problems in differentiating binominal and polynominal names (Fricke, 2008; Dubois & Bour, 2010).

The term 'polynominal' is not mentioned in the Code. We use it here in the sense of 'a specific name that consists of two or more words, and that is beyond the limits provided for a binominal name under Article 11.9.5, wherever this limit may be set by anyone who intends to apply binominal nomenclature'. This definition means that the term 'polynominal name' shall always refer to a name that is not accepted as a binominal name, regardless of a person's detailed interpretation of the Code. It is necessary to give this definition in order to disconnect the term from being defined by the number of words contained in a compound name, and to indicate at the same time that the name is rejected as a scientific name because it contains too many words. We are here referring to Article 11.9.5, which is not part of the definition of binominal nomenclature, but is more useful because it intends to outline the limits beyond which a specific name composed of separate words is not regarded as available. This Article is supplemented by an example saying: 'the words 'aquilegiae flava' in *Aphis aquilegiae flava* (i.e. the yellow aphis of Aquilegia) do not form an admissible species-group name' (in the French Code the term '*acceptable*' is used), the only occasion where a polynominal name is mentioned in the Code, but which gives no statement on the consequences of being '*not admissible*'/'*pas acceptable*'. However examples do not form part of the legal text of the Code (Article 89.2). In accordance with Article 11.9.5. we interpret this name '*Aphis aquilegiae flava*' as an example of what is beyond the limits of tolerance, a polynominal name, which, if used as a scientific name for species and regardless of being a nomen nudum or not, will render a work as not consistently binominal. We interpret the term 'consistent' so that not a single exception is accepted.

6. When we decided which names from De Geer's work should be admissible as binominal and which names not, we had to look closely at the grammatical background of binominality. 'To be available, species group names composed of more than one word must refer to a 'single entity (e.g. host species, geographical area)' (Article 11.9.5). Available names in this sense are *novae hispaniae*, *terrae novae*, *bonae spei*, *sancti johannis*, *quercus phellos*, *striato-radiatus* and *10-lineata* (examples given in Articles 11.9 and 32.5) (Welter-Schultes & Klug, 2011). Apart from host species and geographical areas we also find adjectives combined by a connecting vowel, and cases where one word refers to another word of the specific name (*decem lineata* = with ten lines). In all cases, one of the two words in the specific name refers to the other word in the specific name, not independently to the generic name (Welter-Schultes & Klug, 2011). The term 'single entity' implies that the fact that two words are used to express the idea is only an artifact produced by the selected language, Latin. Welter-Schultes & Klug (2011) noted that there are languages in which a 'single entity' always aligns with a single word, making the grammatical relationship immediately obvious. German, Dutch, Swedish and related languages can be used to facilitate this interpretation, all 'single entity' names in these languages consisting of only one word. In German the compound specific names mentioned above would be literally translated to the single words Neuspanien-, Neuland-, Guthoffnung-, Heiligjohann-, Felloseichen-, Streifenstrahlen-, Zehnlinien-.

Two examples were provided for the other side of the limit (Article 11.9). In *Aphis aquilegiae flava* we see two words in the specific name that both refer to the generic name (the yellow *Aphis*, and the *Aphis* of the host plant *Aquilegia*). In *rudis planusque* two independent words were united by a conjunction ('rough and flat'), both words would refer to the generic name. So the difference between binominal and polynominal is hidden in the grammatical structure of the words.

We believe that our interpretation is in accordance with common usage in zoology, and also with Buchanan et al. (1948, p. 291), who applied the same criteria for bacteriological nomenclature and explained that in the hypothetical name *Bacillus aureus lactis* both terms refer to the generic name, the species has two specific epithets ('two specific names' in zoological terminology), a sequence of two unrelated words. Buchanan et al. (1948) explained that hyphenating the two words (*B. aureus-lactis*) would not improve the situation, both words would still remain unrelated. Only by combining the two words grammatically (*B. aurei-lactis*) would the meaning be changed and the form would be correctly binominal. We found that the bacteriological guide was the only written official document in the biological sciences that could be used for this problem.

Dubois & Bour (2010, p. 8) commented on several species-group names composed of two words found in Laurenti (1768). The authors neglected the grammatical relationships of the words and argued that presence or absence of a hyphen should be regarded as decisive for a consistent application of binominal nomenclature. This was rejected by Welter-Schultes & Klug (2011) for various reasons. Classical Latin did not know the hyphen, early zoological authors did not follow fixed conventions. Some (e.g. Leske, 1778, p. 234) wrote *striato radiatus*, others (e.g. Parkinson, 1830, p. 148) wrote *striato-radiatus*, some (e.g. Linnæus, 1758, p. 365) wrote *10-punctata*, others (e.g. Fabricius, 1775, p. 82) wrote *10 punctata*. Many of the important early works would have to be regarded as not consistently binominal, including most works by Fabricius, Thunberg, Schrank, Leske and others, if such a hyphen rule would be applied. Also Linnæus (1758) established some specific names as separate words without hyphen (for example *Conus Stercus muscarum*). So this proposal is not an option.

In the *Mémoires*, where we had to analyse many names that very closely approached either side of the limit, we only found few cases where it was difficult to identify the border line between binominal and polynominal. We found many specific names composed of two words within the frame outlined here which we consequently regarded as binominal. In all cases where each of the components of the species-group name individually referred to the generic name, we considered the specific name as polynominal. For instance, we did not regard *Elater fuscus flavipes* (as published by De Geer, 1774, p. 151) as binominal because both *fuscus* and *flavipes* grammatically did not refer to each other but were individual adjectives, each one referring to *Elater* (meaning the beetle is brownish *and* has yellow feet, in German Brauner Gelbfuß-[Käfer], such a name can be separated to form two independent terms, Brauner [Käfer] and Gelbfuß-[Käfer]). By using the correct connection vowel the name would become *E. fusco-flavipes*, with a change in the meaning ('brown-yellow-footed', in German Gelbbraunfuß-[Käfer]). The connecting vowel rule was applicable in many cases where the compound specific names consisted of adjectives.

Using the definition given by Buchanan et al. (1948), inserting a hyphen (*E. fuscus-flavipes*) would not modify the situation. Our list of non-binominal names comprises six trinominal names which referred to species and were hyphenated, but gramatically they did not represent a single Latin word (*Cicada foliata-fasciata*, *C. foliata-arcuata*, *C. foliata-fusca*, *C. foliata-sinuosa*, *Bombylius tabaniformis-griseus*, *B. tabaniformis-rufus*). Following the bacteriological guide they are not to be classified as binominal (two unrelated words), but we admit that the zoological Code allows an interpretation by which any sequence of hyphenated words can be regarded as binominal if they are considered to represent one single word (Art. 11.2 and 11.9.1.1 in combination with Art. 32.5.2.3, if *foliata-fasciata* is defined as one single word under Art. 11.3, as one single Latin word or an arbitrary combination of letters formed to be used as a word). So we had two options. We preferred not following the latter interpretation because for a deviation among different biological sciences in this important nomenclatural point, the precise definition of binominality, an official zoological document would be desirable (Art. 89.1.1). We are not aware that the six questionable names have ever been used in the past 200 years. This facilitated our decision to include them in the Index, which we would not like to be interpreted as a case of precedent or preliminary decision in the zoological definition of binominality.

We agree with Dubois & Bour (2010) that it would be very useful if the Code would outline the limits of binominal nomenclature much more precisely than in the 4th edition. An example as given in the Bacteriological Code (Buchanan et al. 1948, p. 291) would be useful; *Elater fuscus flavipes* could serve for this purpose.

7. Names for subspecies or variants were not intended by De Geer. De Geer listed many non-binominal names that differed in the third name only, e.g. *Musca vivipara major* (see De Geer, 1776, p. 63) and *M. vivipara minor* (see De Geer, 1776, p. 70), or *Acarus aquaticus ruber*, *A. aquaticus globosus*, *A. aquaticus maculatus*, *A. aquaticus holosericeus*, and *A. aquaticus marginatus* (see De Geer, 1778, pp. 141, 146, 147, 149, and 152, respectively). These could be interpreted as subspecific names (of the species *Musca vivipara* and *Acarus aquaticus*, respectively). However, there are several examples suggesting that De Geer did not regard such taxa as subspecific. This becomes obvious, for instance, in *Musca major larvarum* (see De Geer, 1776, p. 24) and *Musca minor larvarum* (see De Geer, 1776, p. 25), in which the middle name varied.

Retzius (1783) on the other hand apparently applied a subspecies concept at least in two cases. *Cimex najas* was mentioned with three distinct variants (Retzius, 1783, p. 89), referred to by letter and name, thus covered by Article 72.4.1 of the Code. These were *Cimex najas* [α] *apterus*, [β] *alatus* and [γ] *inermis*. Each of them included an individual description. The second case was *Pediculus humanus* [α] *capitis* and [β] *corporis* (see Retzius, 1783, p. 210; see below for a discussion of this case).

With the exception of these two special cases we propose to regard all trinominal names mentioned by Retzius (1783) and De Geer (1773, 1774, 1775, 1776, 1778) not as names of subspecies but as polynominal names intended to denote species.

8. A special case was created by Retzius (1783, p. 47) who proposed *Phalaena γ-graecum*, using the original Greek (lower case) letter Gamma in the species-group name for a name constructed analogously to *Papilio c-album* (i.e. simply meaning

'the Greek Gamma'). Article 11.2 does not allow non-Latin script in a scientific name. Therefore the use of the Greek letter γ renders the name *γ-graecum* unavailable.

9. Three names referred to the two species of human lice, currently in most taxonomic sources known as *Pediculus humanus* and *Pediculus capitis*. Linnaeus (1758, p. 610) established *Pediculus humanus* for the human louse, mentioning '*Habitat in capite & vestimentis humanis*' (lives on the human head and clothing).

De Geer (1778, p. 67) mentioned two names *Pediculus humanus capitis* and *Pediculus humanus corporis*. His style (see chapter 2) and the fact that he did not apply a proper subspecies concept (see chapter 7) suggests that De Geer did not regard *capitis* and *corporis* as subspecies of *P. humanus*. This is strongly supported by De Geer's own statement with regard to these two names: '*Il y a donc une différence palpable entre ces deux sortes de Poux, & qui semble indiquer qu'ils sont d'espèce différente, à moins qu'on ne veuille plûtôt, comme a fait M. de Linnaeus, les regarder comme de deux variétés*.' (Therefore, there is a palpable difference between these two sorts of lice, and it seems to indicate that they are of different species, unless one would rather, as was done by Mr de Linnaeus, regard them as two varieties). De Geer therefore indicated that he considered the two forms as distinct species, which means that he used *humanus capitis* and *humanus corporis* as species-group names. Both parts of the composite specific name referred to the generic name, not to each other, so they were polynominal under Article 11.9.5 (see chapter 6).

Retzius (1783, p. 210) applied a subspecies concept to these names, addressing them as *Pediculus humanus* [α] *capitis* and [β] *corporis* (see also chapter 7), a classification that was not intended by De Geer (1778).

The name *capitis* is widely used today, predominantly in medical and taxonomic publications, for the human head louse. The name *corporis*, for the human body louse, is today regarded as a synonym of the name *humanus*, so this name is not used in the consistently binominal literature (Durden & Musser 1994, p. 5). In Internet queries we observed that the name *corporis* is still widely used and that many scientists are uncertain about which one should be the correct name for the human body louse. This problem is well illustrated by the example of three publications from 2010 and 2011: Abdel-Ghaffar et al. (2010) used *Pediculus humanus corporis* and *Pediculus humanus capitis*, Cueto & Picollo (2010) used *Pediculus humanus humanus* and *Pediculus humanus capitis*, and Beytur et al. (2011) used *Pediculus corporis* and *Pediculus capitis*. Furthermore, a query for *Pediculus corporis* in May 2011 yielded more than 5,000 hits in Google Scholar. Successful queries in various Wikipedia language sections for *corporis* reflect that moderately skilled authors in a community-controlled web service are also uncertain about the taxonomic and nomenclatural status of that name. Our observations suggest that the Commission's previous statements (ICZN, 1928, p. 28, ICZN; 1957, p. 24) on the identity of *corporis* were either not understood or not known, and that officially suppressing the name in a clear decision could contribute to improve the situation. We propose that the Commission rule under the plenary power that *Pediculus humanus capitis* was made available as a subspecies by De Geer (1778) and suppress the subspecific name *Pediculus humanus corporis* De Geer, 1778 and all subsequent uses of *corporis*.

10. De Geer (1778, p. X) established the genus *Ricinus* for a group of Phthiraptera (Insecta), with a description and without nominal species included, if we interpret De Geer's style as outlined above (para. 2). In the descriptions of the species (pp. 71–81) he indicated their host animals (in italics and not in parentheses). Later these terms were interpreted as specific names (despite their not meeting the conditions of Article 11.5): *R. fringillae* (p. 71), *R. emberizae* (p. 74), *R. cornicis* (p. 76), *R. lari* (p. 77), *R. mergiserrati* (p. 78), *R. gallinae* (p. 79), and *R. canis* (p. 81). Hopkins & Clay (1960, p. 326) suggested regarding this as an accidental style error and the names *R. fringillae*, *R. cornicis*, *R. mergiserrati*, *R. gallinae* and *R. canis* as having been made available on this occasion by De Geer, 1778 (*R. emberizae* and *R. lari* were neglected). The Commission approved this view in Opinion 627 (BZN **19**: 91–96). Otherwise the names would have been made available by Retzius, 1783. The Commission noted that Opinion 627 was not meant to prejudge the general question on the availability of De Geer's work. We proposed this to be done here.

11. The *Aranea-lupus* problem. In his chapter '*Recapitulation de l'arrangement des insectes*' De Geer (1778, pp. 667–862) summarised the taxonomic classification he had applied throughout the *Mémoires*. Therein, De Geer (1778, pp. 849–850) mentioned seven spider 'families' which he had established in the 1778 volume and for which he chose the names Aranea retiaria ('netfighter-spiders', referring to the retiarius, a Roman gladiator who specialized in using weighted fishing nets as weapons), Aranea textoria ('spiders with spidernets'), Aranea vestiaria ('wardrobe-spiders'), Aranea lupus ('wolf spiders'), Aranea phalangium, Aranea cancroides ('crab spiders'), and Aranea aquatica ('water spiders').

For his group of Aranea aquatica De Geer mentioned *Aranea aquatica* Linnæus, 1758 as the only included species. The specific names of the species belonging to his 'families' Aranea retiaria, textoria, and vestiaria were mentioned without exception in combination with *Aranea* as the generic name, so these three names were not used as genus-group names. The terms retiaria, textoria and vestiaria were only mentioned in the descriptive text of the species (following the specific name in parentheses; see para. 2). In contrast to this style, although having introduced them in a higher hierarchy, De Geer used *Aranea-lupus*, *Aranea-phalangium*, and *Aranea-cancroides* as genus-group names in his classification (De Geer, 1778, pp. 269, 285 and 297, respectively).

As suggested by the descriptions of the 'families', De Geer derived their names from the French vernacular names Araignées-loups ('wolf spiders'), Araignées-phalanges ('phalanges' in the French word for phalanx bones, commonly known as finger bones, but this was not consistent with the Latin word, as phalangium refers to a kind of venomous spider), and Araignées-cancroides ('crab spiders') and did not intend to use 'lupus', 'phalangium' and 'cancroides' in a subgeneric sense. After mentioning the vernacular 'family' names De Geer provided their Latin names in parentheses. While Aranea-phalangium was hyphenated in the 'family' description, Aranea lupus and Aranea cancroides were not. However, in the species descriptions assigned to the respective 'families' the three names were unambiguously used as generic names and hyphenated with very few exceptions. All specific names mentioned for these genera were binominal.

Genus-group names composed of more than one word are rare. Screening of Nomenclator Zoologicus (www.ubio.org/NZ, November 2010) for genus-group names written with hyphen revealed little more than 100 names, of which about 50 were actually used. Examples of original spellings of currently used names are *A-Thienemannia* Viets, 1920 (Arachnida), *Amplexi-Zaphrentis* Vaughan, 1906 (Anthozoa), *Arco-Scalpellum* Hoek, 1907 (Crustacea), *Armato-Balanus* Hoek 1913 (Crustacea), *Austro-Peripatus* Sedgwick, 1908 (Onychophora), *Channo-Muraena* Richardson, 1848 (Actinopterygii), and *Hemi-Ramphus* Cuvier, 1816 (Actinopterygii). Other names like *Xero-Campylaea* Kobelt, 1871 (Gastropoda) were spelled as one word in Nomenclator Zoologicus, with correct reference to the original source, but had originally been spelled with a hyphen. In contrast to specific names (Articles 11.9, 11.9.5), the Code does not provide a regulation for how to treat compound genus-group names that were published as separate words connected by a hyphen. A genus-group name must be ‘a word’ (Article 11.8), while species-group names (Article 11.9) can either be ‘a word’ or a ‘compound word’ formed from separate words (under the provisions of Articles 11.9.5 and 32.5.2.2). This means that the generic names mentioned above are not available. We propose to solve the problem by adding a new Article (11.8.2, equivalent to Article 11.9.5) in the Code’s next edition to allow the consolidation of compound words in genus-group names originally established with hyphen. These are more than a negligible number of such names, but still so few among the 400,000 genus-group names of animals (0.01–0.02 %) that previous editors of the Code have not been aware of the problem. We assume that this is an unintended gap in the Code.

Anticipating a possible future ruling in this sense we suggest removing the hyphen and declare *Aranealupus* De Geer, 1778, *Araneaphalangium* De Geer, 1778, and *Araneacancroides* De Geer, 1778 as not available. These three names are currently not used for taxa.

12. We did not verify the current allocations of the more than 850 new names established in this multivolume and multidisciplinary work, with all their potential synonyms and homonyms. It seems that De Geer’s work has been widely regarded as not consistently binominal, in accordance with the Code (Article 1.4). But it also seems that many other authors have started accepting De Geer’s binominal names as available, and have merely ‘skipped’ the polynominal names. We elaborated the present proposal in order to reflect this situation, to legalize current usage and to provide nomenclatural stability for the currently used names. However, the Commission’s ruling will apply only to the works and names concerned in this application (Article 80.5 of the Code).

13. We identified six names which were most probably not polynominal in the above outlined sense, but ambiguous in their interpretation: *Monoculus Pulex ramosus*, *Monoculus Pediculus ramosus* (both from De Geer, 1778), *Phalaena Noctua major*, *Phalaena Tinea Pini*, *Vespa crabro medius*, *Vespa crabro major* (the latter four from Retzius, 1783). In these names it was unclear if the ‘middle name’ was meant as a subgeneric name or as part of a specific name. In the case of *Vespa crabro medius* the last name (*medius*) referred to *crabro* and not to *Vespa* (suggesting the same interpretation for *Vespa crabro major*). These six names have never been used. We suggest that they be placed on the Official List to avoid confusion in the future.

14. Previous Opinions on names from the works treated herein:

De Geer, 1773
Cimex rostratus

OPINION 719 (1965, BZN **22**: 24–25): Suppressed under the plenary power for the purposes of the Principles of Priority and Homonymy.

Cimex najas

OPINION 247 (1954, Op. & Dec. **5**: 91–102): Available, type species of *Aquarius* Schellenberg, 1800.

Perla

OPINION 645 (1963, BZN **20**: 29–30): Available, junior homonym of *Perla* Geoffroy, 1762.

De Geer, 1774
Hydrophilus aeneus

OPINION 538 (1959, BZN **20**: 57–64): Suppressed under the plenary power for the purposes of the Principles of Priority and Homonymy.

De Geer, 1778
Ricinus, Ricinus fringillae, Ricinus cornicis, Ricinus mergiserrati, Ricinus gallinae and ***Ricinus canis***

OPINION 627 (1962, BZN **19**: 91–96): Available from De Geer, 1778.

Retzius, 1783
Cimex najas alatus

OPINION 1741 (1993, BZN **50**: 245): Subspecific name, suppressed under the plenary power for the purposes of the Principle of Priority, but not for those of the Principle of Homonymy.

Perla

OPINION 645 (1963, BZN **20**: 29–30): Available, junior homonym of *Perla* Geoffroy, 1762. Incorrectly cited as from p. 50. Name was mentioned on p. 60. Ruling provoked the misunderstanding that Retzius (1783) used *Perla* in a different sense than De Geer (1773), which is not true. This should be corrected, Retzius did not establish a new name *Perla*.

15. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power:
  (a) to set aside the provisions of Article 11.4 and declare the volumes of the work *Mémoires pour servir à l'histoire des insectes* published by De Geer (1773), De Geer (1774), De Geer (1775), De Geer (1776), De Geer (1778) and Retzius (1783) to be binominal and available for nomenclatural purposes;
  (b) to suppress the 140 names listed below for nomenclatural purposes;

   (c) to rule that *Pediculus humanus capitis* was made available by De Geer (1778, p. 67);
   (d) to suppress the available name *Pediculus humanus corporis* De Geer, 1778 (p. 67) for the purposes of the Principles of Priority, but not for those of the Principle of Homonymy;
   (e) to suppress the available names *Aranealupus* De Geer, 1778, *Araneaphalangium* De Geer, 1778 and *Araneacancroides* De Geer, 1778 for the purposes of the Principle of Priority, but not for those of the Principle of Homonymy;

(2) to place on the Official List of Specific Names in Zoology the name *capitis* De Geer, 1778, as published in the binomen *Pediculus humanus capitis*;
(3) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the following names:
   (a) *Aranealupus* De Geer, 1778 as suppressed in (1)(e) above;
   (b) *Araneaphalangium* De Geer, 1778 as suppressed in (1)(e) above;
   (c) *Araneacancroides* De Geer, 1778 as suppressed in (1)(e) above;
(4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name: *corporis* De Geer, 1778, as published in the binomen *Pediculus humanus corporis* as suppressed in (1)(d) above;
(5) to issue an Official Correction amending the entry for *Perla* Retzius, 1783 on the Official Index to record that it is not an available name but a subsequent use of *Perla* De Geer, 1773 (a junior homonym of *Perla* Geoffroy, 1762).

List of 140 polynominal names from De Geer's and Retzius's works proposed for suppression:

We have tried to check whether some of these names are in current usage, but did not find any name in this list that is currently used for a taxon. However, several insect groups were poorly represented on the internet, and it is theoretically possible that we have missed usage of rarely mentioned names. If some were in usage, we would anticipate that some authors would use them, and others in the same field would reject them for not being binominal.

De Geer, 1773

Aphis nuda Pini De Geer, 1773 (p. 27)
Aphis tomentosa Pini De Geer, 1773 (p. 39)
Aphis betulæ nigro punctata De Geer, 1773 (p. 45)
Aphis Salicis farinosa De Geer, 1773 (p. 76)
Aphis Tiliæ nigro-punctata De Geer, 1773 (p. 77)
Cicada spumaria graminis De Geer, 1773 (p. 163)
Cicada spumaria Salicis De Geer, 1773 (p. 180)
Cicada musciformis Ulmi De Geer, 1773 (p. 189)
Cicada musciformis Rosæ De Geer, 1773 (p. 193)
Cicada Laternaria Chinensis De Geer, 1773 (p. 197)
Cicada Laternaria fusca De Geer, 1773 (p. 200)

Cicada foliata-fasciata De Geer, 1773 (p. 205)
Cicada foliata-arcuata De Geer, 1773 (p. 206)
Cicada foliata-fusca De Geer, 1773 (p. 208)
Cicada foliata-sinuosa De Geer, 1773 (p. 208)
Cimex viridis totus De Geer, 1773 (p. 266)
Cimex niger spinipes De Geer, 1773 (p. 269)
Cimex griseus nigro-punctatus De Geer, 1773 (p. 270)
Cimex niger rufipes De Geer, 1773 (p. 286)
Cimex depressus Betulæ De Geer, 1773 (p. 305)
Cimex viridis pensylvanicus De Geer, 1773 (p. 330)
Cimex nanus fasciatus De Geer, 1773 (p. 343)
Locusta viridis cantatrix De Geer, 1773 (p. 428)
Sphex Americana aptera De Geer, 1773 (p. 591)

De Geer, 1774

Lampyris noctiluca communis De Geer, 1774 (p. 31)
Elater fuscus major De Geer, 1774 (p. 146)
Elater fuscus minor De Geer, 1774 (p. 146)
Elater aeneus rufipes De Geer, 1774 (p. 149)
Elater fuscus flavipes De Geer, 1774 (p. 151)
Silpha nigra major De Geer, 1774 (p. 173)

De Geer, 1775

Leptura aquatica spinosa De Geer, 1775 (p. 140)
Leptura aquatica mutica De Geer, 1775 (p. 142)
Leptura aquatica fasciata De Geer, 1775 (p. 142)
Leptura aquatica ænea De Geer, 1775 (p. 143)
Chrysomela marginella Ranunculi De Geer, 1775 (p. 304)
Chrysomela viridis Alni De Geer, 1775 (p. 306)
Chrysomela cærulea Betulæ De Geer, 1775 (p. 317)
Chrysomela cærulea Salicis De Geer, 1775 (p. 318)
Chrysomela grisea Alni De Geer, 1775 (p. 325)
Chrysomela cylindrica 4-punctata De Geer, 1775 (p. 329)
Chrysomela rubra liliorum De Geer, 1775 (p. 339)
Chrysomela 22-punctata obscura De Geer, 1775 (p. 380)

De Geer, 1776

Musca major larvarum De Geer, 1776 (p. 24)
Musca minor larvarum De Geer, 1776 (p. 25)
Musca minor domestica De Geer, 1776 (p. 26)
Musca carnaria cærulea De Geer, 1776 (p. 57)
Musca vivipara major De Geer, 1776 (p. 63)
Musca vivipara minor De Geer, 1776 (p. 70)
Musca domestica major De Geer, 1776 (p. 72)
Bombylius tabaniformis-griseus De Geer, 1776 (p. 270)
Bombylius tabaniformis-rufus De Geer, 1776 (p. 272)

Tipula agarici seticornis De Geer, 1776 (p. 367)
Tipula nigra aquatica De Geer, 1776 (p. 387)
Tipula Marci nigra De Geer, 1776 (p. 428)
Tipula Marci fulvipes De Geer, 1776 (p. 429)
Coccus ovatus Ulmi De Geer, 1776 (p. 436)
Coccus rotundus Salicis De Geer, 1776 (p. 440)
Coccus farinosus Alni De Geer, 1776 (p. 442)

De Geer, 1778

Podura arborea nigra De Geer, 1778 (p. 18)
Podura arborea grisea De Geer, 1778 (p. 21)
Podura aquatica nigra De Geer, 1778 (p. 23)
Podura aquatica grisea De Geer, 1778 (p. 28)
Podura globosa fusca De Geer, 1778 (p. 35)
Pediculus humanus corporis De Geer, 1778 (p. 67)
Acarus aquaticus ruber De Geer, 1778 (p. 141)
Acarus aquaticus globosus De Geer, 1778 (p. 146)
Acarus aquaticus maculatus De Geer, 1778 (p. 147)
Acarus aquaticus holosericeus De Geer, 1778 (p. 149)
Acarus aquaticus marginatus De Geer, 1778 (p. 152)
Aranea viridis punctata De Geer, 1778 (p. 233)
Aranea resupina sylvestris De Geer, 1778 (p. 245)
Aranea resupina domestica De Geer, 1778 (p. 251)
Monoculus Pulex ramosus De Geer, 1778 (p. 442)
Monoculus Pediculus ramosus De Geer, 1778 (p. 467)
Cimex capensis ruber De Geer, 1778 (p. 619)
Sphinx adscita De Geer, 1778 (p. 694) (used as a generic name)

Retzius, 1783

Papilio Argus marginatus Retzius, 1783 (p. 30)
Papilio margaritaceus medius Retzius, 1783 (p. 31)
Phalaena tesseraria pratensis Retzius, 1783 (p. 36)
Phalaena Ziczac trituberculata Retzius, 1783 (p. 37)
Phalaena Ziczac quinquetuberculata Retzius, 1783 (p. 38)
Phalaena diura major Retzius, 1783 (p. 38)
Phalaena diura minor Retzius, 1783 (p. 38)
Phalaena porrecta alba Retzius, 1783 (p. 38)
Phalaena porrecta cana Retzius, 1783 (p. 38)
Phalaena alticauda alba Retzius, 1783 (p. 39)
Phalaena alticauda grisea Retzius, 1783 (p. 39)
Phalaena alticauda furcata Retzius, 1783 (p. 39)
Phalaena fusca trimaculata Retzius, 1783 (p. 40)
Phalaena cinerea bistigmata Retzius, 1783 (p. 40)
Phalaena flava nigro-punctata Retzius, 1783 (p. 40)
Phalaena fusca bistrigata Retzius, 1783 (p. 41)
Phalaena alba nigro-punctata Retzius, 1783 (p. 41)

Phalaena grisea fasciata Retzius, 1783 (p. 41)
Phalaena cristata albo-lineata Retzius, 1783 (p. 41)
Phalaena cristata flavo-punctata Retzius, 1783 (p. 42)
Phalaena cinerea undulata Retzius, 1783 (p. 43)
Phalaena Noctua major Retzius, 1783 (p. 44)
Phalaena viridis bilineata Retzius, 1783 (p. 45)
Phalaena varia albo-maculata Retzius, 1783 (p. 45)
Phalaena cinerea bimaculata Retzius, 1783 (p. 46)
Phalaena viridis maculata Retzius, 1783 (p. 46)
Phalaena ferruginea fasciata Retzius, 1783 (p. 47)
Phalaena flava strigata Retzius, 1783 (p. 48)
Phalaena sulphurea caudata Retzius, 1783 (p. 49)
Phalaena alba trilineata Retzius, 1783 (p. 50)
Phalaena albida biundulata Retzius, 1783 (p. 50)
Phalaena violacea nigro-strigata Retzius, 1783 (p. 50)
Phalaena Tinea Pini Retzius, 1783 (p. 50)
Phalaena argentea convoluta Retzius, 1783 (p. 51)
Phalaena cana nigro-punctata Retzius, 1783 (p. 51)
Phalaena dimidio-alba maculata Retzius, 1783 (p. 53)
Phalaena nigra cristata Retzius, 1783 (p. 53)
Phalaena strobilorum Pini major Retzius, 1783 (p. 53)
Phalaena strobilorum Pini minor Retzius, 1783 (p. 54)
Phalaena pelicaria Pyri Retzius, 1783 (p. 54)
Phalaena chrysagyria Alni Retzius, 1783 (p. 55)
Phalaena chrysagyria Pomi Retzius, 1783 (p. 55)
Phalaena grisea Rosae Retzius, 1783 (p. 55)
Phalaena maculata Frangulae Retzius, 1783 (p. 55)
Phalaena bicristata Chaerophylli Retzius, 1783 (p. 55)
Phryganea nigra fasciata Retzius, 1783 (p. 56)
Apis muraria nitida Retzius, 1783 (p. 60)
Vespa crabro medius Retzius, 1783 (p. 63)
Vespa crabro major Retzius, 1783 (p. 63)
Sphex rufa fasciata Retzius, 1783 (p. 65)
Ichneumon aureus Bedeguaris Retzius, 1783 (p. 69)
Ichneumon aeneus myriventris Retzius, 1783 (p. 70)
Ichneumon aeneus globiceps Retzius, 1783 (p. 70)
Ichneumon fuscus ramicornis Retzius, 1783 (p. 70)
Ichneumon aeneus ramicornis Retzius, 1783 (p. 70)
Tenthredo pectinata major Retzius, 1783 (p. 74)
Tenthredo pectinata minor Retzius, 1783 (p. 74)
Tenthredo pectinata rufa Retzius, 1783 (p. 74)
Formica nigra major Retzius, 1783 (p. 75)
Formica nigra minor Retzius, 1783 (p. 75)
Formica rubra aculeata Retzius, 1783 (p. 76)
Formica fusca aculeata Retzius, 1783 (p. 76)
Cicada laternaria surinamensis Retzius, 1783 (p. 79)
Tipula clavata maculata Retzius, 1783 (p. 195)

Acknowledgements

We are grateful to all our colleagues who were willing to discuss the difficulties and the matter of availability of De Geer's and Retzius's taxon names in the [iczn-list] mailing list forum. We would like to thank Thomas Pape for his valuable comments. We would furthermore like to thank several anonymous reviewers for their helpful comments.

The AnimalBase database project was funded by the German Science Foundation (DFG).

References

Abdel-Ghaffar, F., Semmler, M., Al-Rasheid, K., Klimpel, S. & Mehlhorn, H. 2010. Comparative in vitro tests on the efficiacy and safety of 13 anti-head-lice products. *Parasitology Research*, **106**: 423–429.

Beytur, A., Geçit, I., Karaman, Ü., Şener, S., Yakupoğulları, Y. Karadan, M. & Karcı, E. 2011. The presence of the pubic louse *Phthirus pubis* in two patients complaining from tick infestation. *European Journal of General Medicine* **8**: 160–162.

Buchanan, R.E., St. John-Brooks, R. & Breed, R.S. 1948. International bacteriological code of nomenclature. *Journal of Bacteriology*, **55**: 287–306.

Cueto, G.M. & Picollo, M.I. 2010. Response of *Pediculus humanus humanus* (Pediculidae: Phthiraptera) to water or 70% ethanol immersion and determination of optimal times for measuring toxic effects. *Parasitology Research* **106**: 1503–1506.

De Geer, C. 1752. *Mémoires pour servir à l'histoire des insectes*. Pp. [1–15], 1–707, [1], pls. 1–37. Grefing, Stockholm.

De Geer, C. 1771. *Mémoires pour servir à l'histoire des insectes; précédés de discours sur les insectes en général.* Tome second; première partie. Pp. I-XII [= 1–12], 1–616, pls. 1–15. Hesselberg, Stockholm.

De Geer, C. 1771. *Mémoires pour servir à l'histoire des insectes.* Tome second; seconde partie. Pp. [1–3], 617–1175, [1], pls. 16–43. Hesselberg, Stockholm.

De Geer, C. 1773. *Mémoires pour servir à l'histoire des insectes.* Tome troisième. Pp. I-VIII [= 1–8], 1–696, [1–2], pls. 1–44. Hesselberg, Stockholm.

De Geer, C. 1774. *Mémoires pour servir à l'histoire des insectes.* Tome quatrième. Pp. I-XII [= 1–12], 1–456, [1], pls. 1–19. Hesselberg, Stockholm.

De Geer, C. 1775. *Mémoires pour servir à l'histoire des insectes.* Tome cinquième. Pp. I-VII [= 1–7], [1], 1–448, pls. 1–16. Hesselberg, Stockholm.

De Geer, C. 1776. *Mémoires pour servir à l'histoire des insectes.* Tome sixième. Pp. I-VIII [= 1–8], 1–522, [1], pls. 1–30. Hesselberg, Stockholm.

De Geer, C. 1778. *Mémoires pour servir à l'histoire des insectes.* Tome septième. Pp. I-XII [= 1–12], 1–950, pls. 1–49. Hesselberg, Stockholm.

Dubois, A. & Bour, R. 2010. The nomenclatural status of the nomina of amphibians and reptiles created by Garsault (1764), with a parsimonious solution to an old nomenclatural problem regarding the genus *Bufo* (Amphibia, Anura), comments on the taxonomy of this genus, and comments on some nomina created by Laurenti (1768). *Zootaxa*, **2447**: 1–52.

Durden, L. A. & Musser, G.G. 1994. The sucking lice (Insecta, Anoplura) of the world: a taxonomic checklist with records of mammalian hosts and geographical distributions. *Bulletin of the American Museum of Natural History*, **218**: 1–90.

Fabricius, J.C. 1775. *Systema entomologiae, sistens insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus*. xxxii, 832 pp. Officina Libraria Kortii, Flensburgi & Lipsiae.

Fricke, R. 2008. Authorship, availability and validity of fish names described by Peter (Pehr) Simon Forsskål and Johann Christian Fabricius in the 'Descriptiones animalium' by Carsten Niebuhr in 1775 (Pisces). *Stuttgarter Beiträge zur Naturkunde (A Neue Serie)*, **1**: 1–76.

Hopkins, G.H.E. & Clay, T. 1960. Mallophagan names of De Geer, 1778: Proposed addition to Official Lists. *Bulletin of Zoological Nomenclature*, **17**: 326–333.

Huldén, L. 1984. A check list of the Finnish insects. Small orders. *Notulae Entomologicae*, **64**: 1–29.

ICZN. 1928. Opinion 104. 57 generic names placed in the Official List. *Smithsonian Miscellaneous Collections*, **73**(5): 25–28.

ICZN. 1957. Direction 63. Completion and in certain cases correction of entries relating to the names of genera belonging to the Class Insecta made in the 'Official List of Generic Names in Zoology' in the period up to the end of 1936. *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature*, **1E**: 21–60.

Laurenti, J.N. 1768. *Specimen medicum, exhibens synopsin reptilium emendatam cum experimentis circa venena et antidota reptilium Austriacorum.* Pp. [1–2], 1–214, [1], Tab. I-V [= 1–5]. Trattnern, Viennæ.

Leske, N.G. 1778. *Iacobi Theodori Klein natvralis dispositio echinodermatvm. Accesservnt lvcvbrativncvla de acvleis echinorvm marinorvm et spicilegivm de belemnitis.* Pp. [1–4], I-XX [=1–20], 1–278, [1–3], Tab. I-LIV [=1–54]. Gleditsch, Lipsiae.

Linnaeus, C. 1758. *Systema Naturae*, Ed. 10, vol. 1. 824 pp. Salvii, Holmiae.

Linnaeus, C. 1761. *Fauna Svecica sistens Animalia Sveciae Regni: Mammalia, Aves, Amphibia, Pisces, Insecta, Vermes. Distributa per classes & ordines, genera & species.* Ed. 2. [48], 578 pp. Salvii, Stockholmiae.

Linnaeus, C. 1767. *Systema Naturae*, Ed. 12, vol. 1, part 2. Pp. 533–1327. Salvii, Holmiae.

Parkinson, J. 1830. *Outlines of oryctology. An introduction to the study of fossil organic remains; especially of those found in the British strata [. . .].* Pp. I-VIII [=1–8], 1–350, [1–3], Pl. I-X [=1–10]. Nattali, London; Combe, Leicester.

Retzius, A.J. 1783. *Caroli Lib. Bar. De Geer [. . .] genera et species insectorvm e generosissimi avctoris scriptis extraxit, digessit, latine qvoad partem reddidit, et terminologiam insectorvm Linneanam additit Anders Iahan Retzivs [. . .].* Pp. [1–5], III-VI [=3–6], 7–220. Crusius, Lipsiae.

Schäffer, J.C. 1764. *Abhandlungen von Insecten. Erster Band. Nebst XVI. Kupfertafeln mit ausgemahlten Abbildungen.* pp. [1–2], I-XL [=1–40], 1–402, pl. [1–16]. Montag, Regensburg.

Schaeffer, J.C. [1766]. *Icones insectorvm circa Ratisbonam indigenorvm coloribvs natvram referentibvs expressae. Volvm. I. Pars I. - Natürlich ausgemahlte Abbildungen Regensburgischer Insecten. Ersten Bandes erster Theil.* pp. [1–8], I-L [=1–50], Tab. I-L [=1–50]. Zunkel, Regensburg.

Welter-Schultes, F. & Feuerstein, V. 2008. Nomenclatural notes on *Torpedo* (Chondrichthyes: Torpedinidae) and some other early established fish taxa (Actinopterygii: Molidae, Eleginopidae and Citharinidae). *Species, Phylogeny & Evolution*, **1** (3): 141–145.

Welter-Schultes, F.W. & Klug, R. 2011. Comments on new names and nomenclatural acts of amphibians and non-avian sauropsids established by Garsault 1764 and Laurenti 1768 (response to Dubois & Bour 2010). *Zootaxa*, **2814**: 50–58.

Acknowledgement of receipt of this application was published in BZN **68**: 2.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3574

Cereus Ilmoni, 1830 (Cnidaria, Anthozoa): proposed designation of a new type species

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Abstract. The purpose of this application, under Articles 78.1 and 81.1 of the Code, is to designate *Actinia pedunculata* Pennant, 1777 as the type species of the genus *Cereus* Ilmoni, 1830. *Cereus pedunculatus* is a widely-studied member of the order Actiniaria (sea anemones sensu stricto). The type species of *Cereus* by monotypy is currently *Cereus cupreus*, a nomen dubium not used since 1857 except in synonymy lists, and a member of the order Ceriantharia (tube anemones). We also request that the name *Actinocereus* Blainville, 1830 be suppressed for the purposes of the Principle of Priority.

Keywords. Nomenclature; taxonomy; *Cereus*; Actiniaria; Ceriantharia; *Cereus*; *Actinia pedunculata*; sea anemones; tube anemones; northeast Atlantic and Mediterranean.

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1. The generic name *Cereus* was first published for an animal by Oken (1815, p. 349); it contained a single species, *Actinia bellis* Ellis & Solander, 1786. The work of Oken was rejected for nomenclatural purposes in Opinion 417 (BZN **14**: 1–42; September 1956) because the author did not apply the principles of binominal nomenclature.

2. Blainville (1830, p. 294) introduced the name *Actinocereus*, about which he wrote 'Ce genre, établi par M. Oken sous le nom de Cereus. . .' ['This genus, established by Mr Oken under the name of Cereus. . .']. Thus Blainville seems to have intended *Actinocereus* as a replacement name for *Cereus* Oken, 1815, although his motivation is unclear: at that time, the action by the International Commission on Zoological Nomenclature on the matter of Oken's names was more than a century in the future. If *Actinocereus* Blainville, 1830 were regarded as a replacement name for *Cereus* Oken, its type species would be *Actinia bellis* Ellis & Solander, 1786, under Article 67.8 of the Code, which states 'both the prior nominal taxon and its replacement have

the same type species'. However, while *Actinocereus* Blainville, 1830 is an available name, it cannot serve as a replacement for the unavailable (under Opinion 417) name *Cereus* Oken. Replacement names are those proposed for 'previously established names' (Article 67.8), and an 'established name' is defined in the Glossary as one made available by satisfying the requirements of the Code. *Actinia bellis* appeared in the list of species included in *Actinocereus* but only as a junior synonym of *Actinia pedunculata* Pennant, 1777 (p. 41) and no type species was ever designated from among the seven originally included nominal species (including synonyms). Since that first mention *Actinocereus* has been used only once, by Blainville (1834) in another catalogue; as in his earlier work, *Actinocereus pedunculatus* (Pennant, 1777) is listed among the members of the genus. *Actinocereus* was not mentioned in any later catalogues of anemones, such as those of Andres (1883) and Carlgren (1949), and no valid species are currently referred to this genus (Fautin, 2011).

3. Also in 1830, the name *Cereus* was again proposed, this time by Ilmoni (1830, p. 697) for *Cereus cupreus* Ilmoni, 1830 (p. 698), which is the type species by monotypy. The original description was repeated and published in virtually identical form the following year (Ilmoni, 1831). Because only *Cereus cupreus* was listed in the genus, this seems not to have been the same taxon that Oken (1815) meant by that generic name. No type specimen of the species is known to exist (Fautin, 2011).

4. From Ilmoni's description of *Cereus cupreus* it is clear that the species is a member of the order Ceriantharia, the common name of which is 'tube anemones'. However, beyond that, the identity of *Cereus cupreus* is uncertain. Following the questioned synonymy of Andres (1881), Pax & Mueller (1955) synonymised it with *Tubularia membranacea* Gmelin, 1796 (currently *Cerianthus membranaceus*). Andres (1881) also questionably synonymised *Cereus cupreus* with *Tubularia solitaria* Rapp, 1829 (currently *Cerianthus solitarius*).

5. According to Fautin (2011), the generic name *Cereus* has been used in combination with 42 species names, 41 of which refer to animals belonging to the order Actiniaria, commonly known as true 'sea anemones'. According to Fautin (2011), only four of those species are now placed in *Cereus*: *Actinia pedunculata* Pennant, 1777, *Actinia filiformis* Rapp, 1829, *Actinia amethystina* Quoy & Gaimard, 1833 and *Sagartia herpetodes* McMurrich, 1904. *Actinia amethystina* and *Actinia filiformis* were transferred to *Cereus* Ilmoni, 1830 by Milne Edwards (1857). Since then, the only mention of the former was in the comprehensive catalogue by Andres (1883), as being of uncertain generic affinity; and the only mention of the latter was also by Andres (1883), who declared it a nomen dubium. We therefore consider both to be nomina dubia. Carlgren (1959) moved *Sagartia herpetodes* to the genus *Cereus*; Haüssermann & Försterra (2003) expressed doubt that *Cereus herpetodes* belongs to the same genus as *C. pedunculatus.*

6. Thus the only certain member of the genus *Cereus* Ilmoni, 1830 is the sea anemone *C. pedunculatus* (Pennant, 1777) (p. 41), which was transferred to the genus by Fischer (1874). Pennant's (1777) Vol. 4 was issued both in quarto and octavo formats, and these were paginated differently. We follow Sherborn (1902, p. xliii) in considering the larger format to be definitive.

7. Common along European shores and also reported from the Azores and Canary Islands, *Cereus pedunculatus* has been the subject of a very large amount of research. (a list of references downloaded from Fautin (2011), including ecological and

physiological works, is filed with the Secretariat). In catalogues of sea anemones of the world, both Stephenson (1920) and Carlgren (1949) listed *Cereus pedunculatus* as the only member of the genus (Stephenson also identified it explicitly as the 'genotype').

8. In his treatment of *Cereus* in *British Anthozoa: Keys and notes for the identification of the species*, Manuel (1981, p. 150) stated that R.B. Williams was preparing 'An application to validate the name' and also noted that *Cereus* 'was first proposed by Oken (1815) in a publication that has since been declared nomenclaturally invalid.' In fact, Williams did not submit this application, nor the manuscript, *A nomenclatural review of the British sea anemones*, incorrectly referred to by Manuel (1981) as 'Williams (in press)'. Moreover, we are confident that Manuel (1981), who listed the type species as '*Cereus pedunculatus*', was unaware of the publications by Ilmoni because he was using the unpublished notes of Williams, who did not know of them. Since the actual dates of Ilmoni's (1830) and Blainville's (1830) papers cannot at present be objectively determined, we propose that the name *Actinocereus* Blainville (1830) be suppressed by the Commission for the purposes of the Principle of Priority.

9. Because the type species of *Cereus* Ilmoni, 1830 is a cerianthiarian, *Actinia pedunculata* Pennant, 1777, an actinarian, should be placed in a different genus. However, *Cereus* can be used unambiguously for *pedunculatus* because *C. cupreus,* its original type species, is a nomen dubium and this combination has not been used for more than 150 years. Changing such a well-known combination as *Cereus pedunculatus* now, after more than a century and a quarter of use, would be highly disruptive.

10. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power:
  (a) to set aside all previous type fixations for *Cereus* Ilmoni, 1830 and designate *Actinia pedunculata* Pennant, 1777, as its type species;
  (b) to suppress the generic name *Actinocereus* Blainville (1830) for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
(2) to place on the Official List of Generic Names in Zoology the name *Cereus* Ilmoni, 1830 (gender: masculine), type species *Actinia pedunculata* Pennant, 1777, as ruled in (1)(a) above;
(3) to place on the Official List of Specific Names in Zoology the name *pedunculata* Pennant, 1777, as published in the binomen *Actinia pedunculata* (specific name of the type species of *Cereus* Ilmoni, 1830, as ruled in (1)(a) above);
(4) to place on the Official Index of Rejected and Unavailable Generic Names in Zoology the name *Actinocereus* Blainville (1830), as suppressed in (1)(b) above.

References

Andres, A. 1881. Prodromus neapolitanae actiniarum faunae addito generalis actiniarum bibliographiae catalogo. *Mitteilungen aus der Zoologischen Station zu Neapel*, **2**: 305–371.

Andres, A. 1883. Le attinie. *Atti della Reale Accademia dei Lincei. Serie terza. Memorie della Classe di Scienze Fisiche, Matematiche e Naturali*, **14**: 211–673.

Blainville, H.M.D. de. 1830. *Dictionnaire des sciences naturelles*, vol. 60. 631 pp. F.G. Levrault, Strasbourg & Paris.

Blainville, H.M.D. de. 1834. *Manuel d'actinologie ou de zoophytologie.* 644 pp. F.G. Levrault, Paris & Strasbourg.

Carlgren, O. 1949. A survey of the Ptychodactiaria, Corallimorpharia and Actiniaria. *Kungliga Svenska Vetenskapsakademiens Handlingar*, (4)**1**(1): 1–121.

Carlgren, O. 1959. Reports of the Lund University Chile Expedition 1948–49 38. Corallimorpharia and Actiniaria with description of a new genus and species from Peru. *Arkiv für Zoologie*, series N.F., **71**(6): 1–38.

Ellis, J. & Solander, D. 1786. *The natural history of many curious and uncommon zoophytes, collected from various parts of the globe.* 206 pp. Benjamin White & Son, London.

Fautin, D.G. 2011. Hexacorallians of the World. *http://geoportal.kgs.ku.edu/hexacoral/anemone2/index.cfm* (accessed 16 January, 2011).

Fischer, P. 1874. Recherches sur les actinies des cotes océaniques de France. *Nouvelles Archives du Muséum d'Histoire Naturelle de Paris*, **10**: 193–244.

Gmelin, J.F. 1796. *Caroli a Linné Systema Naturæ, 13th edition, revised*, volume 1, part 6. 4120 pp. Bernuset, Delamolliere, Falque & Co., Lugduni.

Haüssermann, V. & Försterra, G. 2003. First evidence for coloniality in sea anemones. *Marine Ecology Progress Series*, **257**: 291–294

Ilmoni, [I.]. 1830. Dr. Ilmoni aus Finnland schickte folgende Beiträge zur Naturgeschichte der Actinien ein. *Isis von Oken*, **23**: 694–699.

Ilmoni, [I.]. 1831. Sur deux espèces nouvelles de la famille des actinies. *Bulletin des Sciences Naturelles (Paris)*, **24**: 123.

McMurrich, J.P. 1904. The Actiniae of the Plate collection. *Zoologische Jahrbücher*, **6 suppl.**: 215–306.

Manuel, R.L. 1981. *British Anthozoa: keys and notes for the identification of the species.* 241 pp. Academic Press, London.

Milne Edwards, H. 1857. *Histoire naturelle des corallaires ou polypes proprement dits*, vol. 1. 326 pp. Librairie Encyclopédique de Roret, Paris.

Oken, L. 1815. *Lehrbuch der Naturgeschichte*, vol. 3: Zoologie. 842 pp. Bersasser, Jena.

Pax, F. & Mueller, I. 1955. Gli antozoi del Museo Civico di Storia Naturale di Trieste Parte I: Antipatharia, Ceriantharia, Zoantharia, Actiniaria, Alcyonaria, e Pennatularia. *Atti del Museo Civico di Storia Naturale Trieste*, **20**: 103–129.

Pennant, T. 1777. *A British zoology*, vol. 4. Edition 4, quarto format, 136 pp. Benj. White, London.

Quoy, R.J.C. & Gaimard, P. 1833. *Voyage de découvertes de l'Astrolabe exécuté par ordre du roi, pendant les années 1826–1827–1828–1829, sous le commandement de M. J. Dumont D'Urville*, vol. 4. Zoophytes. 390 pp. J. Tastu, Paris.

Rapp, W. 1829. *Ueber die Polypen im Allgemeinen und die Actinien.* 62 pp. Grolsherzogl. Sdch, Weimar.

Sherborn, C.D. 1902. *Index animalium, sectio prima.* lix, 1195 pp. C.J. Clay & Sons, London and Cambridge University Press.

Stephenson, T.A. 1920. On the classification of Actiniaria. Part I: Forms with acontia and forms with a mesogloeal sphincter. *Quarterly Journal of Microscopical Science*, **64**(4): 425–574.

Acknowledgement of receipt of this application was published in BZN **68**: 160.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3575

Haltica undulata Kutschera, 1860 (currently *Phyllotreta undulata*, Insecta, Coleoptera, CHRYSOMELIDAE): proposed precedence over *Haltica bivittata* Waterhouse, 1838 (currently *Phyllotreta bivittata*)

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Abstract. The purpose of this application, under Articles 23.9.3 and 81 of the Code, is to conserve the name *Phyllotreta undulata* (Kutschera, 1860), for a common and widespread flea-beetle species (CHRYSOMELIDAE, GALERUCINAE), which is also a crop pest, by giving it precedence over the unused older name *P. bivittata* (Waterhouse, 1838), whenever these names are considered to be synonyms.

Keywords. Nomenclature; taxonomy; Coleoptera; CHRYSOMELIDAE; GALERUCINAE; *Phyllotreta*; *P. undulata*; Eurasia; North America; Australia; Pacific region.

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1. In 1836 Charles Darwin collected beetles at the fledgling colony of King George Sound, Western Australia (founded 1826). On his return to England, the flea-beetles (CHRYSOMELIDAE, GALERUCINAE, ALTICINI) were described by George Waterhouse at the Natural History Museum, London (Waterhouse, 1838). One of these species was *Haltica bivittata* Waterhouse, 1838 (p. 133), later placed in *Phyllotreta* Chevrolat, 1836 (Masters, 1887), but without examination by Masters of the original material.

2. The species represented by the name *Phyllotreta bivittata* has rarely been referred to. Blackburn (1890) compared its description with *Phyllotreta australis* Blackburn, 1890. Heikertinger & Csiki, 1940, catalogued *P. bivittata* in a work which included taxonomic decisions and references to the biology and biogeography of species. Heikertinger (1941) examined the type material of *P. bivittata* and compared this species with *P. vilis* Weise, 1888. In this work, the last taxonomic work to treat *P. bivittata*, Heikertinger regarded it as a valid species endemic to Australia. Otherwise, since 1838 the name has been an infrequent checklist entry as a valid species name (Masters, 1887; Reid, 2008). *Phyllotreta bivittata* was not included in Blackburn's revision of the Australian ALTICINI, which remains the only revision of this tribe in Australia (Blackburn, 1896).

3. Waterhouse's 3 syntypes of *Haltica bivittata*, in the Natural History Museum, London, have been examined by CR and RB and a male dissected to examine the

genitalia, structurally diagnostic in the genus *Phyllotreta* (Mohr, 1966). The syntypes all have Darwin's coded collecting labels, plus printed labels indicating they were collected by Darwin at King George Sound. This type material is morphologically within the range of variation known for the species currently known as *Phyllotreta undulata* (Kutschera, 1860), with identical male genitalia, and these two names are evidently subjective synonyms.

4. *Haltica undulata* was described by Kutschera in 1860 (p. 301) for a European species of the tribe ALTICINI, subfamily GALERUCINAE, family CHRYSOMELIDAE. Kutschera described *undulata* in the genus *Haltica*, in his fifth group of that genus, which he noted was equivalent to the available generic name *Phyllotreta* Chevrolat, 1836 ['V. Gruppe (*Phyllotreta* Chevrol. Dej. Cat.)']. Kutschera explicitly used the word Gruppe [group] for this taxonomic concept, not subgenus, or genus, and we consider that its treatment as a species-group within a genus was an act of synonymy.

5. The first unequivocal transfer of *Haltica undulata* to *Phyllotreta* Chevrolat, 1836, was by Allard (1866) and it has since remained in this genus as *Phyllotreta undulata* (Kutschera, 1860). Older names exist for this species, but they are junior homonyms and not available (as listed in catologues: Heikertinger & Csiki, 1940; Gruev & Döberl, 1997). There are also two available names describing colour variations, which postdate *P. undulata* (Heikertinger & Csiki, 1940; Gruev & Döberl, 1997; Döberl, 2010).

6. *Phyllotreta undulata* belongs to a group of small, similarly coloured, species which are relatively difficult to distinguish and are endemic to Eurasia. However, numerous regional faunas adequately separate *P. undulata* from its relatives on external characters and diagnostic male genitalia (Heikertinger, 1941; Mohr, 1966; Medvedev, 1982; Doguet, 1994; Warchalowski, 1995; Bienkowski, 2004; Döberl, 2010), which are identical to those of *P. bivittata.*

7. The name *Phyllotreta undulata* is well-known throughout Europe, stable and associated with a large body of literature concerning its distribution, biology, pest status on the plant family BRASSICACEAE, and associated microfauna. Heikertinger & Csiki, 1940, list 31 taxonomic and biogeographic references and approximately 50 articles on biology of *P. undulata*; more recent references include: taxonomy and distribution (Mohr, 1966; Medvedev, 1982; Doguet, 1994; Warchalowski, 1995; Gruev & Döberl, 1997; Riley et al., 2003; Bienkowski 2004; Döberl, 2010; Borowiec, 2011); biology (Steinhausen 1978; Vig 2003; Clark et al., 2004 [23 papers cited for hostplant]); pest status (Augustin et al., 1986; Ekbom, 1995; Weiss, 2003); associated pathogens (Yaman et al., 2009). A search of the abstracting journal Zoological Record in January 2012 revealed that at least 25 works, by more than 15 authors, have been published in the last 25 years with the name *Phyllotreta undulata* in the title or abstract.

8. *Phyllotreta undulata* has been accidentally transported to other biogeographic regions by humans, including North America, Australia and the West Pacific (Samuelson, 1973; Riley et al., 2003). Several of these introductions were not originally recognised as such. Thus *Altica strigula* Montrouzier, 1864 (New Caledonia), *Phyllotreta australis* Blackburn, 1890 (Australia), *Phyllotreta vittigera* Broun, 1893 (New Zealand), and *Phyllotreta blackburni* Bryant, 1925 (Fiji), are now recognised as junior synonyms of *Phylotreta undulata* (Samuelson, 1973), although

strigula has also, erroneously, been placed as a synonym of another valid species, *Phyllotreta striolata* (Döberl, 2010).

9. The subjective senior synonym *P. bivittata* has, with three exceptions, existed for the last 173 years only as a catalogue entry in the Australian fauna, whereas its junior synonym is a well-established name throughout much of the world, with an extensive associated literature. Replacement of *Phyllotreta undulata* with *Phyllotreta bivittata* would be a considerable inconvenience to agriculturalists, horticulturalists, ecologists and other biologists, principally in Europe, where *bivittata* is an unknown name.

10. The junior synonym, *P. undulata*, has been used as the presumed valid name in at least 25 works by at least 10 authors in the last 50 years, meeting the requirements of Article 23.9.1.2, however Article 23.9.1.1 is not met: the senior synonym, *P. bivittata*, has been used as a valid name since 1899 (by Heikertinger & Csiki, 1940; Heikertinger 1941), and this use is more than a mere listing in an abstracting publication or other index or list of names (Article 23.9.6). Therefore, in accordance with Article 23.9.3 of the Code, this case is referred to the Commission for a ruling under Article 81.2.3.

11. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to give the name *undulata* Kutschera, 1860, as published in the binomen *Haltica undulata*, precedence over the name *bivittata* Waterhouse, 1838, as published in the binomen *Haltica bivittata*, whenever the two are considered to be synonyms;

(2) to place on the Official List of Specific Names in Zoology the name *undulata* Kutschera, 1860, as published in the binomen *Haltica undulata*, with the endorsement that it is to be given precedence over the name *bivittata* Waterhouse, 1838, as published in the binomen *Haltica bivittata*, whenever the two are considered to be synonyms;

(3) to place on the Official List of Specific Names in Zoology the name *bivittata* Waterhouse, 1838, as published in the binomen *Haltica bivittata*, with the endorsement that it is not to be given priority over the name *undulata* Kutschera, 1860, as published in the binomen *Haltica undulata*, whenever the two are considered to be synonyms.

References

Allard, E. 1866. Monographie des Alticides tribu de la famille des Phytophages. [partim] *L'Abeille Journal d'Entomologie*, **3**: 181–428.

Augustin, A., Tulisalo, U. & Korpela, S. 1986. Flea beetles (Coleoptera, Chrysomelidae, Halticinae) on rapeseed and sugarbeet in Finland. *Journal of Agricultural Science in Finland*, **58**(2): 69–82.

Bienkowski, A.O. 2004. *Leaf-beetles (Coleoptera: Chrysomelidae) of the Eastern Europe. New key to subfamilies, genera and species*. 278 pp. Mikron Print, Moscow.

Blackburn, T. 1890. Notes on Australian Coleoptera with descriptions of new genera and species. *Transactions of the Royal Society of South Australia*, **13** [1889–1890]: 121–160.

Blackburn, T. 1896. Further notes on Australian Coleoptera with descriptions of new genera and species. *Transactions of the Royal Society of South Australia*, [1895–1896] **20**: 35–109.

Borowiec, L. 2011. Chrysomelidae of Europe. Alticinae. *Phyllotreta undulata* (Kutschera, 1860). http://culex.biol.uni.wroc.pl/cassidae/European%20Chrysomelidae/phyllotreta%20undulata.htm [accessed December 2011]

Broun, T. 1893. *Manual of the New Zealand Coleoptera. Parts V-VII.* Pp. 975–1504. Government Printer, Wellington.

Bryant, G.E. 1925. New species of Phytophaga from the Fiji Islands. *The Annals and Magazine of Natural History*, (9)**15**: 590–600.

Chevrolat, L.A.A. 1836. [new taxa]. Pp. 361–442 *in* Dejean, P.F.A.M. *Catalogue des Coléoptères de la collection de M. Le Comte Dejean. Deuxième édition.* Livraison 5. Méquignon-Marvis Pere et Fils, Paris.

Clark, S.M., LeDoux, D.G., Seeno, T.N., Riley, E.G., Gilbert, A.J. & Sullivan, J.M. 2004. *Host plants of leaf beetle species occurring in the United States and Canada (Coleoptera: Megalopodidae, Orsodacnidae and Chrysomelidae, excluding Bruchinae).* 476 pp. The Coleopterist's Society, Sacramento.

Döberl, M. 2010. Subfamily Alticinae Newman, 1835. Pp. 491–563 *in* Löbl, I. & Smetana, A. (Eds.), *Catalogue of Palaearctic Coleoptera. Volume 6. Chrysomeloidea.* Apollo Books, Steenstrup.

Doguet, S. 1994. Coléoptères Chrysomelidae. Volume 2 Alticinae. *Faune de France*, **80**: 1–694.

Ekbom, B. 1995. Flea beetle (*Phyllotreta undulata*) feeding preferences. *IOBC-WPRS Bulletin*, **18**(4): 88–94.

Gruev, B. & Döberl, M. 1997. General distribution of the flea beetles in the Palaearctic Subregion (Coleoptera, Chrysomelidae: Alticinae). *Scopolia*, **37**: 1–496.

Heikertinger, F. 1941. Die *Phyllotreta*-Arten des indoaustralischen Faunengebietes. (Col. Chrysom. Haltic.). *Entomologische Blätter*, **38**: 138–152.

Heikertinger, F. & Csiki, E. 1940. *Coleopterorum Catalogus Pars 166 & 169: Chrysomelidae: Halticinae I & II.* 635 pp. Junk, 's-Gravenhage.

Kutschera, F. 1860. Beiträge zur Kenntniss der europäischen Halticinen. *Wiener Entomologische Monatschrift*, **10**(4): 297–310.

Masters, G. 1887. Catalogue of the described Coleoptera of Australia. Part VII. *Proceedings of the Linnean Society of New South Wales*, (2)**2**: 565–646.

Medvedev, L.N. 1982. *Chrysomelidae of the Mongolian People's Republic: identification keys.* 303 pp. Nauka, Moscow.

Mohr, K.H. 1966. 88 Familie Chrysomelidae. Pp. 95–299 *in* Freude, H., Harde, K.W. & Lohse, G.A. (Eds.), *Die Käfer Mitteleuropas. Band 9 Cerambycidae, Chrysomelidae.* Goecke & Evers, Krefeld.

Montrouzier, X. 1864. [new taxa] *in*: Perroud, B.P. & Montrouzier, X., Essai sur la faune entomologique de Kanala (Nouvelle-Calédonie) et description de quelques espèces nouvelles ou peu connues. *Annales de la Société Linnéenee de Lyon (N.S.)*, **11**: 46–257.

Reid, C.A.M. 2008. Superfamily Chrysomeloidea. Australian Faunal Directory website (http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/taxa/Chrysomeloidea) [accessed December 2011].

Riley, E.G., Clark, S.M. & Seeno, T.N. 2003. *Catalog of the leaf beetles of America north of Mexico (Coleoptera: Megalopodidae, Orsodacnidae and Chrysomelidae, excluding Bruchinae).* The Coleopterists Society, Sacramento, 290 pp. CD ROM.

Samuelson, S.A. 1973. Alticinae of Oceania (Coleoptera: Chrysomelidae). *Pacific Insects Monograph*, **30**: 1–165.

Steinhausen, W. 1978. Bestimmungstabelle für die Larven der Chrysomelidae (partim). Pp. 336–343 *in* Klausnitzer, B. (Ed.), *Ordnung Coleoptera (Larven).* Junk, The Hague.

Vig, K. 2003. Biology of *Phyllotreta* (Alticinae), with emphasis on Hungarian and middle European species. Pp. 565–576 *in* Jolivet, P., Santiago-Blay, J.A. & Schmitt, M. (Eds.), *New developments in the biology of Chrysomelidae.* SPB Academic Publishing, The Hague.

Warchalowski, A. 1995. Chrysomelidae. Chrysomelid beetles (Insecta: Coleoptera). Part 5, subfamily Halticinae: genera *Phyllotreta*, *Aphthona* and *Longitarsus*. *Fauna Polski*, **17**: 1–359.

Waterhouse, G.R. 1838. Descriptions of some of the insects brought to this country by C. Darwin, Esq. *Transactions of the Entomological Society of London*, **2**(2): 131–135.

Weise, J. 1888. Chrysomelidae. Lieferung 5. *Naturgeschichte der Insecten Deutschland. Erste Abtheilung Coleoptera*, **6**: 769–960.

Weiss, E.A. 2003. *Spice crops.* 429 pp. CABI Publishing, Wallingford.

Yaman, M., Tosun, O. & Aydin, C. 2009. Occurrence of the pathogens and parasites of *Phyllotreta undulata* (Coleoptera: Chrysomelidae) in Turkey. *Turkish Journal of Zoology*, **33**(2): 139–146.

Acknowledgement of receipt of this application was published in BZN **68**: 160.

Comments on this case are invited for publication (subject to editing) in the Bulletin; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3579

Scarabaeus fimetarius Linnaeus, 1758 (currently *Aphodius fimetarius*; Insecta, Coleoptera, SCARABAEIDAE): proposed conservation of usage of the specific name by designation of a neotype

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Abstract. The purpose of this application, under Articles 75.5 and 75.6 of the Code, is to conserve the current usage of the name *Aphodius fimetarius* (Linnaeus, 1758) for a Holarctic species of aphodiine dung beetle. Since a different species has been erroneously designated as the lectotype, it is proposed that the previous type fixations for the species *Aphodius fimetarius* (Linnaeus, 1758) be set aside and a neotype consistent with the current usage be designated. Given that the species diagnostic morphological characters show variation overlapping with those of the most similar species, *Aphodius pedellus* (De Geer, 1774), we suggest a modern, chromosomally determined specimen as the neotype.

Keywords. Nomenclature; taxonomy; SCARABAEIDAE; APHODIINAE; *Aphodius*; *Aphodius fimetarius*; *Aphodius pedellus*; *Aphodius foetens*; dung beetle; Recent; Holarctic.

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1. Linnaeus (1758, p. 348) described *Scarabaeus fimetarius* from Europe ('Habitat in Europae stercoratis') and referred to Frisch (1736), Rösel (1749), Uddman (1753) and his own works *Fauna Svecica* (Linnaeus, 1746) and 'Iter Oelandicum' which is *Öländska Resa* (Linnaeus, 1745). According to Article 72.4.1 of the Code, the type series comprises the material considered by those authors together with the original Linnaean material present in the Linnaean collection housed by the Linnean Society of London. With the type locality determined by Linnaeus as Europe, the specimens of the type series originated primarily from Sweden and Germany. Sweden at the time owned parts of northern Germany. It should be noted that the type series included more than one species: '*A. fimetarius*' = *A. pedellus* (De Geer, 1774), sensu Wilson (2001; see para. 2 below); *A. foetens* (Fabricius, 1787) (see para. 3 below);

potentially a sibling species formerly subsumed under *A. fimetarius* (*A. fimetarius* sensu Wilson, 2001, see para. 2 below); possibly *A. foetidus* (Herbst, 1783) (Linnaeus's variety β, synonymised with *Aphodius scybalarius* Fabricius by Schönherr (1806, p. 68), which he misidentified; *A. scybalarius* was mistakenly used for *A. foetidus* by several authors, see BZN **51**: 121–127); or even *Aphodius sordidus* (Fabricius, 1775), which occurs in Öland from where Linnaeus (1746) described it and which can have four dark dots on the elytra as indicated by Uddman (1753) (see Ljungberg & Hall, 2009). Landin (1956) came to the same conclusions, but missed the presence of one *A. foetens* in the Linnaean material. Despite this inconsistent type series, the usage of *Aphodius fimetarius* had been consistent and undisputed for at least a century until 2001. It is the type species of the genus *Aphodius* Hellwig, 1798, designated by Latreille (1810).

2. Wilson (2001, p. 137), in the course of her PhD research, found that *Aphodius fimetarius* (Linnaeus, 1758 p. 348), as used by all authors in the preceding hundred years, comprises two species clearly separable on their karyotypes. She reported on relevant type material and designated lectotypes for *Scarabaeus fimetarius* Linnaeus, 1758 (p. 348), and *Scarabaeus pedellus* De Geer, 1774 (p. 266), which she considered to be the correct names for the two species.

3. Unfortunately, neither Wilson (as author of the paper) nor Angus (as supervisor of Wilson's PhD) had checked the underside of Linnaeus's specimens, and it now transpires that the chosen lectotype of *S. fimetarius* belongs to *Aphodius foetens* (Fabricius, 1787, p. 8), immediately recognisable by its red abdomen.

4. The species with a red abdomen has never been referred to *A. fimetarius* (Linnaeus), being known as *A. aestivalis* Stephens, 1839 (e.g. Kloet & Hincks, 1945; Britton, 1956; Balthasar, 1964), *A. vaccinarius* Herbst, 1789 (e.g. Paulian, 1959) or by the currently used name of *A. foetens* (Fabricius) (e.g. Thomson, 1863; Fowler, 1890; Joy, 1932; Machatschke, 1969; Jessop, 1986; Baraud, 1992; Krell & Fery, 1992; Dellacasa, G. & Dellacasa, M., 2006). Although Linnaeus described *S. fimetarius* as having a black body and red elytra, it is not possible to demonstrate that the specimen chosen by Wilson (2001) as lectotype was not part of Linnaeus's original material of *S. fimetarius* as Linnaeus gave no indication of knowing a species with a red abdomen as well as red elytra. In fact, it is clear from Wilson's account of the Linnaean material that this specimen does form part of Linnaeus's series, and the most likely explanation is that Linnaeus did not notice its red abdomen. Therefore the Commission is asked to use its plenary power to set aside the current lectotype and replace it with a neotype (as proposed in para. 6 below), as required by Article 75.6 of the Code.

5. The present interpretation of *A. fimetarius* and *A. pedellus* (sensu Wilson, 2001) is in use by those authors who have recognised that the former *A. fimetarius* comprises two species, notably Whitehead (2005, 2006) who keys out the two species, Mann in Lane et al. (2002), Denton (2005), Dellacasa, M. & Dellacasa, G. (2006), Ljungberg (2006), Rössner (2006), Mann (2006, 2008), Darby (2009), Nilsson (2009), Roslin & Heliovaara (2009), Forshage (2010), and Ljungberg & Hall (2009) who key and illustrate *A. pedellus* as a member of the Swedish fauna. *Aphodius pedellus* has been entering the ecological and conservation literature (Ljungberg & Vessby, 2009; Stenström & Holmberg, 2010; Ødegaard et al., 2011). The current American use of *Aphodius fimetarius* (e.g. Gordon & Skelley, 2007) includes both sibling species (from

Californian material chromosomally identified by Wilson & Angus, 2004, and newly studied Arizona and Colorado material (R. B. Angus, unpublished karyotype), both belonging to *A. fimetarius* sensu Wilson; *A. pedellus* is identified from several States (Krell, unpublished).

6. Choice of neotype: Recommendation 75A of the Code is that a neotype should if possible be chosen from surviving paralectotypes unless there are compelling reasons to the contrary. In the present case, because all possible species diagnostic characters show overlapping variation (colour, tip of elytra, pronotal punctures, genae, aedeagus), karyotypic data are necessary to allow unequivocal identification, so that the choice of a modern, chromosomally determined specimen is justified. Although the paralectotypes on the Linnaean series are considered inadequate for neotype designation, they are among the material available to guide the choice of the species to be defined by the neotype. However, it should be noted that this material does not constitute the total available for consideration (see para. 1 above). Both Frisch (1736) and Rösel (1749) discussed and figured the *Aphodius* with red elytra, and are concerned with German material which becomes part of the basis for interpretation of *A. fimetarius*. Linnaeus's own *Fauna Svecica* (1746) explicitly refers to the Swedish Realm, which at that time included parts of northern Germany. This is important as while only *A. pedellus* is known in present day Sweden, both *A. pedellus* and *A. fimetarius* sensu Wilson occur in Germany, and Linnaeus gave Europe, not Sweden, as the type locality for his *Scarabaeus fimetarius*. Wilson (2001), in her account of the Linnaean series, mentions, as well as the specimen designated lectotype, four Linnaean specimens, two males and two females, as well as one non-Linnaean English specimen. Wilson identified one Linnaean male and one female as *A. fimetarius* (Linnaeus) in the sense adopted in her paper, and one male and one female as *A. pedellus* (De Geer). Further study of the material shows this to be not entirely correct. All the specimens were coated with a fine partly greasy layer and this gave their surface sculpture a muted appearance. Angus has now cleaned the material and as a result of this it is clear that both of the females, as well as one male, are *A. pedellus* (De Geer). The remaining male, which has the Linnean Society's catalogue number 3385 and is the male on the finer pin, at one time pinned immediately to the right of Linnaeus's name label, may be *A. fimetarius* (Linnaeus) as interpreted by Wilson (2001), as the head has the cheeks not expanded laterally in front of the eyes, their lateral margins being parallel to one another posteriorly. However, the pin of this specimen is not a typical Linnaean pin (Mikkola, 1983) which allows for the possibility that it is not an original Linnaean specimen. Dissection of the aedeagus might clarify the identification of this specimen but is considered unnecessary as the specimen is not adequate for designation as neotype. Despite the existing paralectotypes very probably lacking a specimen of *A. fimetarius* sensu Wilson, it is possible that Frisch's or Rösel's material referred partly to this species. Both Frisch's and Rösel's collections are probably lost (see Horn et al., 1990). The least disruptive choice of neotype is a specimen corresponding to Wilson's (2001) interpretation of *A. fimetarius*, followed by those who have recognised that two species are involved (see para. 5) and that is the procedure adopted here.

7. Neotype designation. Neotype ♂ *Scarabaeus fimetarius* Linnaeus 1758. The specimen is mounted on Bristol board using gum tragacanth, though for added

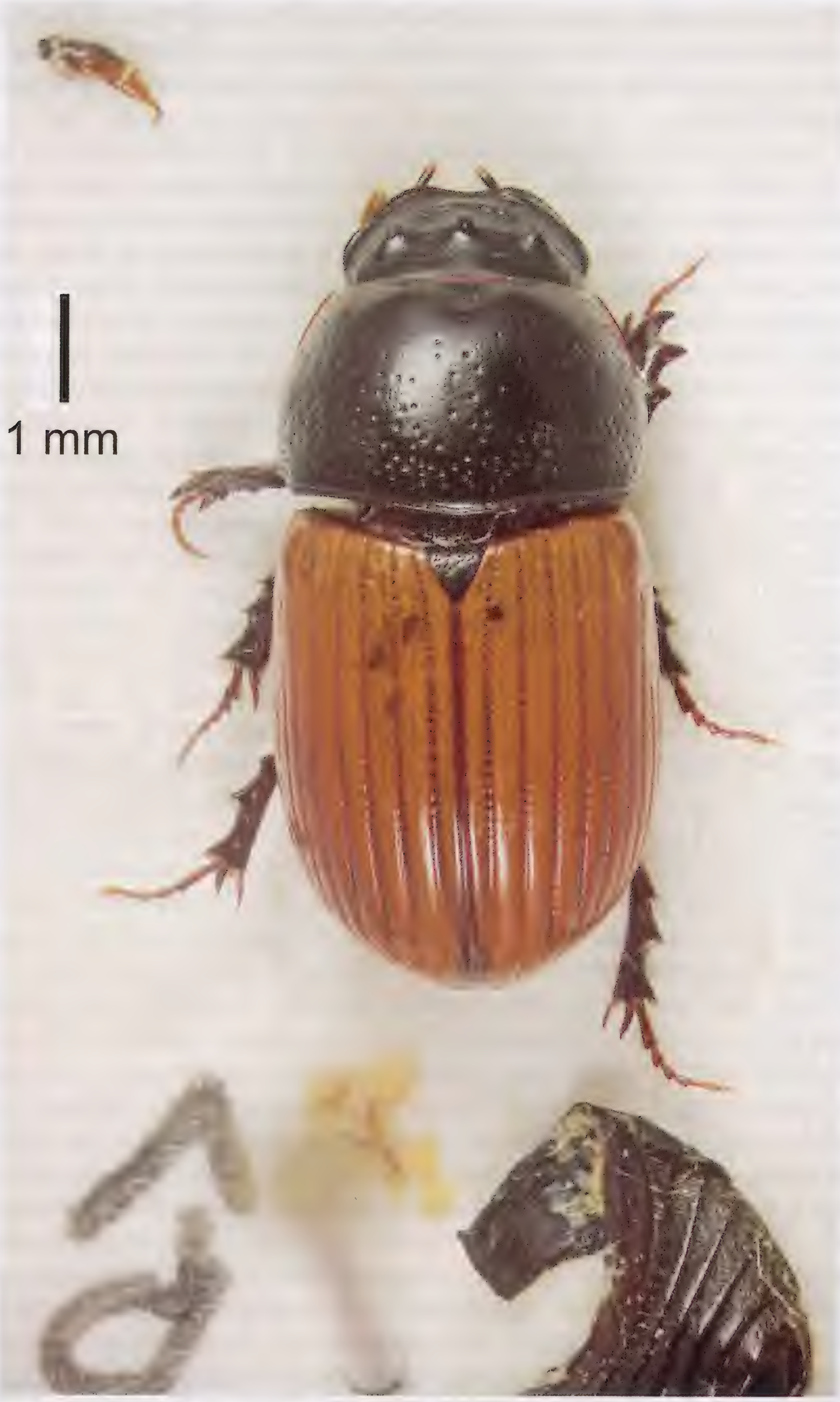

Fig. 1. *Scarabaeus fimetarius* Linnaeus, 1758. Proposed neotype.

strength the aedeagus is glued to the face of the card with 'Hercules' water-soluble glue. It is labelled 'England, E. Kent. Deal. 10.v.2000. Wilson, Angus & Carr.' and 'Chromosome prep. 1: 10.v.2000.' It is housed in the Coleoptera collection of

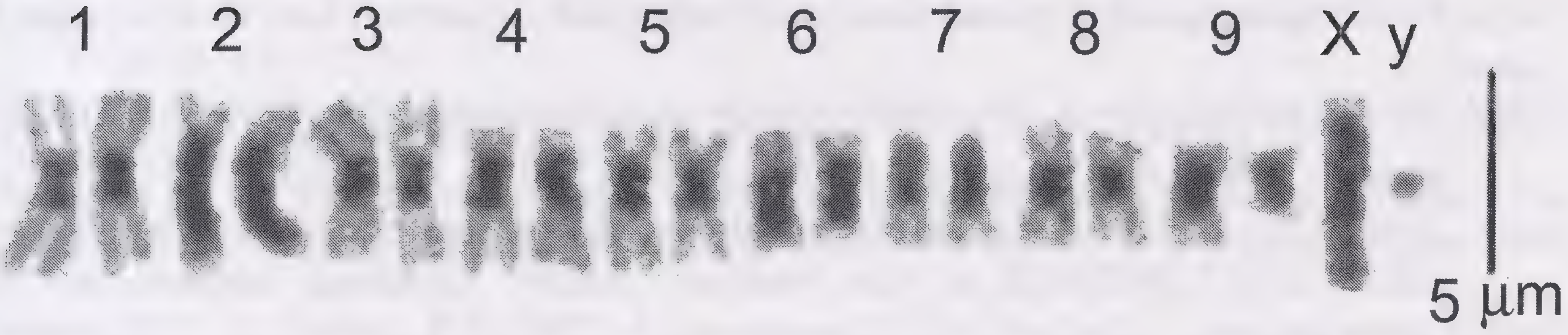

Fig. 2. *Scarabaeus fimetarius* Linnaeus, 1758. Mitotic chromosomes from mid-gut cell of proposed neotype, arranged as a karyotype.

the Natural History Museum, London and has the unique identification label BMNH{E}UIN990028. It is illustrated in Fig. 1 and a C-banded karyotype prepared from mitotic chromosomes from mid gut of this specimen is shown in Fig. 2.

Its length is 7.0 mm, its breadth 3.4 mm. The head is shining black with the frontoclypeal suture strongly trituberculate. The cheeks do not protrude laterally in front of the eyes and their lateral margins are not divergent from the base, so that they are more or less parallel to one another on each side of the head. The antennae are reddish brown. The pronotum is shining black, with yellowish red patches at anterior angles. The anterior margin has a distinct median impression and the posterior margin is entirely bordered. The hind angles are obliquely truncate. The pronotal punctuation is double, with sparse, even, fine punctures over the entire surface, but the coarser punctures are more restricted, diffuse over most of the surface but absent from an area behind the anterolateral pale patches and very sparse over the median part of the anterior quarter. The scutellum is small, triangular, black, sparsely punctuate except for the impunctate apical third. The elytra are yellowish red with the interstices weakly but distinctly convex. Interstice 4 (between striae 3 and 4) on the left elytron is about as long as interstice 3, but on the right elytron it is distinctly shorter than interstice 3. On both elytra it is as long as interstice 5 and extends to the reticulate apical section of the elytra (the subapical field) which extends between the apices of striae and interstices 1 – 6 and the apical margin of the elytra. The subapical field is flat, matt, with even, fine reticulation and scattered fine punctures, without any wrinkles. The legs are blackish brown, with the tarsi paler, reddish brown. The aedeagus in lateral view has the apices of the parameres deflexed at almost a right angle.

A C-banded karyotype from mitotic chromosomes of a mid gut cell of this beetle is shown as Fig. 3 by Wilson (2001) and as Fig. 48.2 by Angus (2006).

Designation of this neotype conforms to the interpretation of *Scarabaeus fimetarius* Linnaeus used by Wilson (2001) and those authors who have considered *Aphodius fimetarius* and *A. pedellus* (De Geer) to be separate species.

8. Strict application of the Code without asking the Commission to apply its plenary power would mean transferring the name *Aphodius foetens* from one fairly well known species to one of the most common Holarctic dung beetle species, which would cause immense confusion. Choosing a neotype from the paralectotypes of *Aphodius fimetarius* would acknowledge the species identity of probably most of the specimens that Linnaeus had in hand when describing *S. fimetarius*, but would go against the use by those authors who have recognised that the former *A. fimetarius* comprises two species (see para. 5 above).

9. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to set aside all previous type fixations for the nominal species *fimetarius* Linnaeus, 1758, as published in the binomen *Scarabaeus fimetarius*, and to designate the specimen with the unique identification label BMNH{E}UIN990028 at the Natural History Museum, London, as the neotype;

(2) to place on the Official List of Specific Names in Zoology the name *fimetarius* Linnaeus, 1758, as published in the binomen *Scarabaeus fimetarius*, and as defined by the neotype designated in (1) above.

Acknowledgements

We are greatly indebted to Eckehard Rößner (*Schwerin*), who raised the possibility of the lectotype of *Aphodius fimetarius* being *A. foetens* and for revealing the unpublished results of his morphological studies to us; to Max Barclay (*London*), Darren Mann (*Oxford*) and Jason Maté (*Madrid*) for helpful comments on a former draft of this petition. Following consultation with specialists (Recommendation 75B) we thank Hans Fery (*Berlin*) and Eckehard Rößner (*Schwerin*) for their clear, critical arguments against our procedure; and Alberto Ballerio (*Brescia*), Andrey Frolov (*St. Petersburg*), Darren Mann (*Oxford*), Jason Maté (*Madrid*) and Tomas Roslin (*Helsinki*) for supporting comments. We thank the Entomology Department, Natural History Museum, London for supporting the preparation of this submission.

References

Angus, R.B. 2006. Chromosome differences. Pp. 346–351 *in* Cooter, J. & Barclay, M.V.L. (Eds.), *A Coleopterist's Handbook, 4th edition.* 439 pp. Amateur Entomologists' Society, Orpington, Kent.

Balthasar, V. 1964. *Monographie der Scarabaeidae und Aphodiidae der palaearktischen und orientalischen Region.* 3, *Aphodiidae.* 562 pp. Tschechoslowakische Akademie der Wissenschaften, Prag.

Baraud, J. 1992. *Coléoptères Scarabaeoidea d'Europe. Faune de France*, **78**. 856 pp, 11 pls. Fédération Française des Sociétés de Sciences Naturelles, Paris.

Britton, E.B. 1956. Coleoptera Scarabaeoidea. *Handbooks for the Identification of British Insects*, **5**(11). 29 pp. Royal Entomological Society, London.

Darby, M. 2009. *Wiltshire beetles. History, status, distribution and use in site assessment.* viii, 345 pp. Malthouse Books, Sutton Mandeville, Salisbury.

De Geer, C. 1774. *Mémoires pour servir à l'Histoire des Insectes* 4. 456 pp. Stockholm.

Dellacasa, G. & Dellacasa, M. 2006. Coleoptera Aphodiidae, Aphodiinae. *Fauna d'Italia,* **41**. 484 pp. Calderini, Bologna.

Dellacasa, M. & Dellacasa, G. 2006. Tribe Aphodiini Leach, 1815. Pp. 105–143 *in* Löbl, I. & Smetana, A. (Eds.), *Catalogue of Palaearctic Coleoptera, Volume 3.* Apollo Books, Stenstrup.

Denton, J. 2005. *The beetles of Surrey. A checklist.* 115 pp. Surrey Wildlife Trust, Woking, Surrey.

Fabricius, J.C. 1775. *Systema entomologiae, sistens insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus.* xxxii, 832 pp. Officina Libraria Kortii, Flensburgi & Lipsiae.

Fabricius, J.C. 1787. *Mantissa Insectorum: sistens eorum species nuper detectas: adjectis characteribus genericis, differentiis, specificis emendationibus, observationibus.* 348 pp. Christ. Gottl. Proft, Hafniae.

Forshage, M. 2010. Flera skalbagskataloger, plus perspective på katalogisering. *Entomologisk Tidskrift*, **131**: 67–70.

Fowler, W.W. 1890. *The Coleoptera of the British Islands*, vol. 4. 411 pp., pls. 99–142. Reeve & Co., London.

Frisch, J.L. 1736. *Beschreibung von allerley Insecten in Teutschland. 4, Samt einer Nachricht in der Vorrede von Hr Albini Buch, so von der gleichen Materien in Engelland herausgekommen.* Nicolai, Berlin.

Gordon, R.D. & Skelley, P.E. 2007. A monograph of the Aphodiini inhabiting the United States and Canada (Coleoptera: Scarabaeidae: Aphodiinae). *Memoirs of the American Entomological Institute*, **79**: 1–580.

Hellwig, J.C.L. 1798. [without title; book preview]. *Intelligenzblatt der Allgemeinen Literatur-Zeitung*, **1798** (13): 100–101.

Herbst. J.F.W. 1783. Kritisches Verzeichniss meiner Insektensammlung. *Archiv der Insectengeschichte*, **4**: 1–72.

Herbst, J.F.W. 1789. *Natursystem aller bekannten in- und ausländischen Insekten als eine Fortsetzung der Büffonischen Naturgeschichte.* Pp. 1–16, 1–64, 1–330. Pauli, Berlin.

Jessop, L. 1986. Dung beetles and chafers Coleoptera: Scarabaeoidea. *In*: *Handbooks for the Identification of British Insects*, **5**(11) (New edition). 53 pp. Royal Entomological Society, London.

Joy, N.H. 1932. *A practical handbook of British beetles*, vol. 1. 622 pp. Witherby, London.

Kloet, G.S. & Hincks, W.D. 1945. *A check list of British insects*. 483 pp. Kloet & Hincks, Stockport.

Krell, F.-T. & Fery, H. 1992. *Familienreihe Lamellicornia.* Pp. 200–252 *in* Lohse, G. A. & Lucht, W.H. (Eds.), *Die Käfer Mitteleuropas*, vol. 13 (2 Supplementband mit Katalogteil). Goecke & Evers, Krefeld.

Landin, B.-O. 1956. The Linnean species of Lamellicornia described in 'Systema Naturae', Ed. X (1758). (Col.). *Entomologisk Tidskrift*, **77**: 1–18.

Lane, S.A., Wright, R.J. & Forsythe, T.G. 2002. *An atlas of Warwickshire beetles.* 217 pp. Warwickshire Biological Records Centre, Warwick.

Latreille, P.A. 1810. *Considérations générales sur l'ordre naturel des animaux composant les classes des crustacés, des arachnides, et des insectes.* 444 pp. Schoell, Paris.

Linnaeus, C. 1745. *Öländska och Gothländska resa på riksens högloflige ständers befallning förrättad åhr 1741.* 344 pp. Kiesewetter, Stockholm & Upsala.

Linnaeus, C. 1746. *Fauna Svecica sistens animalia sveciae regni: quadrupedia, aves, amphibian, pisces, insecta, vermes, distributa per classes & ordines, genera & species.* Pp. 1–28, 1–411, 1 pl. Wishoff, Lugduni Batavorum.

Linnaeus, C. 1758. *Systema Naturae*, Ed. 10, vol. 1. 824 pp. Salvii, Holmiae.

Ljungberg, H. 2006. Inventering av dyngbaggar på Gotland, en metodstudie. *Rapporter om Natur och Miljö, Länsstyrelsen i Gotlands Län*, **2006**(5): 1–44.

Ljungberg, H. & Hall, K. 2009. Nyckel till svenska dyngbaggar. *Länsstyrelsen i Gotlands Län*, **2009**: 1–33.

Ljungberg, H. & Vessby, K. 2009. *Information om hotade arter. Dyngbaggar.* Länsstyrelserna, Kalmar. 4 pp.

Machatschke, J.W. 1969. *Familie: Scarabaeidae, Blatthornkäfer.* Pp 266–366 *in* Freude, H., Harde, K.W. & Lohse, G.A. (Eds.), *Die Käfer Mitteleuropas*, vol. 8. 388 pp. Goecke & Evers, Krefeld.

Mann, D.J. 2006. Scarabaeoidea. Pp. 47–58 *in* Cooter, J. & Barclay, M.V.L. (Eds.), *A Coleopterist's Handbook, 4th edition.* 439 pp. Amateur Entomologists' Society, Orpington, Kent.

Mann, D.J. 2008. *Family Scarabaeidae Latreille, 1802.* Pp. 55–58 *in*: *Checklist of beetles of the British Isles.* 164 pp. A.G. Duff, Wells, Somerset, U.K.

Mikkola, K. 1983. Diagnostic insect pins: some problems of the Linnean insect collection solved. *Antenna*, **7**: 16–17.

Nilsson, P. 2009. Dyngbaggar i Blekinge – inventering av dyngbaggefaunan in Blekinge 2007. *Rapporter Länsstyrelsen Blekinge Län*, **2009**(10): 1–68.

Ødegaard, F., Hanssen, O. & Sverdrup-Thugeson, A. 2011. Dyremøkk – et hotspot-habitat. Sluttrapport under ARKO-prosjektets periode II. *NINA Rapport,* **715**: 1–42.

Paulian, R. 1959. *Coléoptères Scarabéides. Faune de France*, vol. 63. 298 pp. Lechevalier, Paris.

Rössner, E. 2006. Neuheiten für die Fauna der Blatthornkäfer Deutschlands (Coleoptera, Scarabaeoidea). *Entomologische Nachrichten und Berichte*, **50**: 209–211

Rösel, A.J. 1749. *Der monatlich-herausgegebenen Insecten-Belustigung zweyter Theil, welcher acht Classen verschiedener sowohl inländischer / als auch einiger ausländischer Insecte enthält.* Pp. [1–7], 1–24, 1–72, 1–28, 1–16, [1–3], 1–32, [1–7], 1–70, 1–200, 1–64, 1–52, [1–19], Tab. [1], A–B, I–IX, I–III, I–VI, I–IV, I–XVII, I–XXX, I–XV, I–X. Fleischmann, Nürnberg.

Roslin, T. & Heliovaara, K. 2009. *Suomen lantakuoriaiset. Opas santiaisista.* 244 pp. Gaudeamus Helsinki University Press, Helsinki.

Schoenherr, C.J. 1806. *Synonymia Insectorum, oder, Versuch einer Synonymie: aller bisher bekannten Insecten; nach Fabricii Systema Eleutheratorum geordnet. Erster Band, Eleutherata, oder Käfer*. Nordström, Stockholm.

Stenström, A. & Holmberg, T. 2010. Miljöövervakning av dyngbaggar i västra Götalands län. *Länstyrelsen i Västa Götalands län, Naturvårdsenheten, Rapport*, **2010**(63): 1–20.

Stephens, J.F. 1839. *A manual of British Coleoptera, or beetles.* 443 pp. Longman, London.

Thomson, C.G. 1863. *Skandenaviens Coleoptera.* 5. 340 pp. Lundbergska Boktryckeriet, Lund.

Uddman, I. 1753. *Novae insectorum species.* [6], 48 pp. Merckell, Aboae.

Whitehead, P.F. 2005. Notable Coleoptera records 5. *Entomologist's Gazette*, **56**: 251–260.

Whitehead, P.F. 2006. *Aphodius* (*A.*) *fimetarius* (L., 1758) and *Aphodius* (*A.*) *pedellus* (De Geer, 1774) (Col., Aphodiidae) are distinct species, with new evidence for their European distribution. *Entomologist's Monthly Magazine*, **142**: 85–86.

Wilson, C.J. 2001. *Aphodius pedellus* (De Geer), a species distinct from *A. fimetarius* (Linnaeus) (Coleoptera: Aphodiidae). *Tijdschrift voor Entomologie*, **144**: 137–143.

Wilson, C.J. & Angus, R.B. 2004. Chromosomal analysis of the West European species of *Aphodius* Illiger, subgenus *Aphodius* s. str. (Coleoptera: Aphodiidae). *Tijdschrift voor Entomologie*, **147**: 247–264.

Acknowledgement of receipt of this application was published in BZN **68**: 240.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London

Case 3576

Oscinella Becker, 1909 (Insecta, Diptera, CHLOROPIDAE): proposed conservation by reversal of precedence with *Melanochaeta* Bezzi, 1906 and *Pachychaetina* Hendel, 1907

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the widely used generic name *Oscinella* Becker, 1909 (CHLOROPIDAE). The name *Oscinella* is threatened by its senior subjective synonyms *Melanochaeta* Bezzi, 1906 and *Pachychaetina* Hendel, 1907. Strict application of the Code would result in the name *Oscinella frit* (Linnaeus, 1758), uniformly used for 'frit fly', one of the most serious pests of cereals in the Palaearctic, having to change its generic epithet. It is proposed that *Oscinella* be given precedence over *Melanochaeta* and its objective synonym *Pachychaetina* over *Oscinella* Becker, 1909 whenever these names are considered to be synonyms.

Keywords. Nomenclature; taxonomy; Insecta; Diptera; CHLOROPIDAE; *Oscinella*; *Melanochaeta*; *Pachychaeta*; *Pachychoeta*; *Pachychaetina*; *Lasiochaeta*; *Oscinella frit*; *Melanochaeta capreolus*; Holarctic; Oriental; Afrotropical; Neotropical; Australasian; Palaearctic; frit fly.

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1. Most agricultural handbooks on cereals deal with damage to cereals caused by the larvae of the 'frit fly'. It was first documented more than two thousand years ago. The damaged young caryopses (grain) of cereals, mainly barley and oats, were called 'frit' by the ancient Romans, although they were unaware that a dipterous larva was the cause: Varro (37 B.C., [exact dating discussed in Flad, 1996], capitulum xlvii) wrote: 'Illut [sic! correct illud] autem summa in spica jam matura, quod est minus quam granum, vocatur frit' [The part at the top of the full-grown ear, smaller than the grain, is called frit]. Linnaeus adopted this name when he first described the biology of 'Korn-Flugan' (Linnaeus, 1750, 1754) and later named it *Musca frit* in his *Systema Naturae* (Linnaeus, 1758, p. 598). Frit fly larvae destroy growing kernels of cereals predominantly at the top of the ear and kill the central shoots of young grasses, resulting in a plant with several stems, and damage to the ear. The result can be a total loss of the crop. An immense scientific and applied literature exists concerning this common agricultural pest of grain crops (including maize) and its management. Since the earliest times agricultural handbooks have dealt with this subject. In the CHLOROPIDAE database of the first author, 3,013 articles are included

with the key word 'frit'; 41 of these titles are unpublished dissertations up to a length of 232 pages (England 13, Germany 12; Russia 11, Czech Republic 1, Finland 1, Sweden 1, Switzerland 1, U.S.A. 1) and 1,045 articles contain in their title the word 'frit', or if not, the vernacular word-stems 'bzun'... (Czech), 'шведск'... (= 'shvedsk' ..., 'švedsk'...) [Russian, Bulgarian, Serbo-Croatian], swedsk..., szwedsk..., ploniar... (Polish), or the complete words 'oscinie' (French), 'suedeze' (Romanian) or oat fly. During the last 50 years in three taxonomic articles 2, 1, and 2 new species of *Oscinella* were described, correspondingly (Cherian, 1977; Beschovski, 1978; Deeming, 2003). All these are still valid. The latest key for 15 out of 22 European *Oscinella* species was published by Beschovski (1985, p. 103). The three most recent applied articles on *O. frit* in the English language were published by El-Wakeil et al. (2009), Anonymous (2002) and Lindblad (2001). *O. frit* occurs in all six biogeographical regions (CHLOROPIDAE chapters in the Catalogues of Palaearctic, Nearctic, Neotropic, Afrotropical, Oriental and Australasian Regions, CABI, 2005). CABI (2005) published the newest world distribution map of this pest fly. Presumably it is the most abundant true fly (Brachycera s.l.) in temperate Europe (experience of 45 years Brachycera sorting of sweep net, trap and eclector samples by the first author; Johnson & Taylor, 1962; von Tschirnhaus, 1981). *Oscinella pusilla* (Meigen, 1830) auctt., *O. vastator* (Curtis, 1845) and *O. nartshukiana* Beschovski, 1978 are also *Oscinella* species known to be harmful to cereals. Worldwide the genus *Oscinella* comprises 3 subgenera: *Oscinella* s.s., *Paroscinella* Becker, 1913 and *Cyclocercula* Beschovski, 1978, and altogether 82 valid species, some of which may be transferred to other genera in the future. At least 284 nominal species-group taxa have been described in *Oscinella* or placed in it for a certain period.

2. Larvae and adults of *Oscinella* are very difficult to identify, to the genus level as well as to the species. As background for this application the definition of its type species *O. frit* is outlined by reference to selected literature: Drawings: the colour pattern of the fly's legs is variable and depends on the temperature regime under which the larvae developed (Le Berre, 1959; Le Berre & Chevin, 1962). Unpublished studies made by the first author in the course of a few days in the Alps demonstrate that, dependent on the altitude from 800 m up to 2,640 m a.s.l., the flies become darker and darker with increasing altitude, and the wings become shorter, wider and darker. Many other similar European species and their synonyms have been described mainly on the basis of colour differences of their legs. A thorough revision based on the male genitalia and on specimens reared from known host plants (species of POACEAE and CYPERACEAE) is still missing. Coaker (1952) was the first to study genitalia of *O. frit* in connection with the fly's external morphology. One plate (fig. 19) with figures of the male genitalia is missing in the original unpublished dissertation held at the University of London and Coaker himself does not have a copy of it (pers. comm. with the first author, 3.ii.1976). Different drawings of the male genitalia are available in Andersson (1977, p. 111), Beschovski (1985, p. 101; 1987, p. 43) and Nartshuk & von Tschirnhaus (submitted). The morphology of the larvae of *O. frit* or both these species was distinguished by Narchuk (1956), Nye (1958) and Hubicka & Buchalczyk (1962).

3. Becker proposed the generic name *Oscinella* Becker, 1909 for his new Afrotropical CHLOROPIDAE species, *O. deficiens*, currently assigned to *Conioscinella* Duda, 1929. As pointed out by Sabrosky (1973), Becker fulfilled the criteria for making the name

available. In his large monograph of Palaearctic CHLOROPIDAE Becker (1910) designated '*Oscinella frit* Linnaeus' as type species of *Oscinella*, a species not included in the original description (Becker, 1909). Thus, Sabrosky (1973) proposed the designation of *Musca frit* Linnaeus, 1758 as the type species of *Oscinella*, which was approved by the Commission in Opinion 1100 (BZN **34**: 203–204, February 1978). Incidentally, a mistake occurred accompanying this designation: In the 'Original References' the correct year 1909 of Becker's proposal was combined with an erroneously cited article, namely Becker (1910, p. 29), published 15.iii.1910). We propose that the entry for the name *Oscinella* on the Official List of Generic Names in Zoology be amended to record that the correct reference for this genus is '**Becker, T.** 1909. *Bulletin du Muséum National d'Histoire Naturelle (Paris)*, **15**(3), p. 120'.

4. *Musca frit* Linnaeus, 1758 since its description until its inclusion in *Oscinella* by Becker (1910) has been assigned to various genera: *Oscinis* Latreille, 1804, *Gaurax* Loew, 1863 and *Oscinisoma* Lioy, 1864 (the last is occasionally incorrectly spelled as *Oscinosoma*). Both the taxonomic and economic literature on the frit fly and its relatives followed Becker (1910), although some applied entomologists and authors of agricultural books have, for a variety of reasons, continued using the specific name *frit* in combination with the generic names *Oscinis*, *Oscinisoma* or '*Oscinosoma*'. At present the generic names *Gaurax* Loew, 1863 and *Oscinisoma* Lioy, 1864 are used as valid and are listed as such in all modern monographs on CHLOROPIDAE and the manuals on Diptera. The type species of *Oscinis* Latreille, 1804 is *Musca lineata* Fabricius, 1781, a junior primary homonym of *Musca lineata* Harris, 1776 (SYRPHIDAE). Since Becker's monograph (1910) *Oscinis* Latreille, 1804 is a junior synonym of *Chlorops* Meigen, 1803 (CHLOROPINAE), both having the same type species *Musca pumilionis* Bjerkander, 1778.

5. *Elachiptera aterrima* Strobl, 1880 (p. 34) is the type species of *Pachychoeta* Bezzi, 1895 (p. 72), by original designation. It was never doubted since its synonymisation by Collin (1911, p. 152) that *Oscinis capreolus* Haliday, 1838 (p. 187) is a senior synonym of *Elachiptera aterrima* Strobl, 1880. Morge (1974) mentioned that the male type specimen of *E. aterrima* in the Strobl Collection in Admont (Austria) was identified by John Ismay as *M. capreolus.* Later (Morge, 1984, p. 317) an exact figure of the type specimen of *M. capreolus* was published.

6. In order to clarify the status of *Melanochaeta* Bezzi, 1906 (p. 50) its nomenclatural history is outlined. Bezzi (1895) used *Pachychoeta* as a subgenus of *Crassiseta* von Roser, 1840, intentionally using a name earlier proposed by Loew (1845) as *Pachychaeta* [proposed by Loew (1845) in synonymy with *Crassiseta* Roser, 1840 but made available by Bezzi's use of it as the valid name of a taxon], but with the spelling *Pachychoeta.* As there is no indication in Bezzi (1895) of an intentional change, *Pachychoeta* cannot be an unjustified emendation. Bezzi later (1906: 50) used Loew's original spelling *Pachychaeta* [linguistically correct, from Doric Greek: chaíta = bristle]. Bezzi's (1906) first two sentences and the last one are [translated from German]: '*Melanochaeta* nov. nom. for *Pachychaeta* Bezzi 1895 (Fam. *Chloropidae*, typ. *Elachiptera aterrima* Strobl) nec Loew 1845 (Dipt.). When I founded this new subgenus of *Crassiseta* I used the name of Loew in order to prevent the creation of a new one . . . in any case for my genus a new name must be used'. However, *Melanochaeta* is not a new replacement name because the name it is stated to replace is not an available name but a misidentification ('*Pachychaeta* Bezzi 1895 . . . nec

Loew 1845'). *Melanochaeta* Bezzi, 1906 is to be considered as proposed with the type species (and only included species) *Elachiptera aterrima* by original designation.

7. We thoroughly studied all publications of Loew from 1840 to 1845 as to date it remained unclear if Loew (1845) had published his intended generic name *Pachychaeta* Loew, 1845 only in synonymy with *Crassiseta* or if he had published it anywhere before together with one or more nominal species. Loew's complicated German text can be interpreted under both alternatives. Later authors between 1845 and 1961 did not associate any species name with *Pachychaeta* Loew. Kanmiya (1983, p. 85) cited Corti (1909) to have designated *Oscinis cornuta* Fallén as type species, but in Corti's extensive discussion of the taxonomic problems no designation is included. The first author naming *O. cornuta* as the type species was Andersson (1977). His designation was accepted by Nartshuk (1984).

8. Neither version of Bezzi's name could become valid: *Pachychoeta* Bezzi, 1895 is preoccupied by *Pachychoeta* Bigot, 1857 (p. 545) (ASILIDAE) and *Pachychaeta* Bezzi, 1906 is preoccupied by *Pachychaeta* Brauer & von Bergenstamm, 1891 (p. 99 [also 1892, p. 403]) (TACHINIDAE), an unjustified emendation of *Pachycheta* Portschinsky, 1881 (p. 278). This emendation was discussed in detail by O'Hara (2009). Nevertheless the proposal of a new name is justified, though the circumstances for its validation are outlined only in this application. Bezzi (1906) proposed his new genus *Melanochaeta* with an indication, his description of *Pachychoeta* (1885), and by stating *Elachiptera aterrima* Strobl as its type species.

9. Unaware of the new name *Melanochaeta*, Hendel (1907) a year later proposed a second replacement name for *Pachychoeta* Bezzi, 1895 (now cited as the justified emendation *Pachychaeta*), namely *Pachychaetina* Hendel, 1907, again automatically with the type species *Elachiptera aterrima* and its senior synonym *Oscinis capreolus.*

10. *Melanochaeta* Bezzi, 1906 antedates *Oscinella* Becker, 1909. Apart from *Melanochaeta capreolus*, 39 valid species (many unrevised) are currently included in the genus *Melanochaeta*, all without economic importance. All these 39 species are currently separated from species of *Oscinella* Becker by morphological characters. An available genus-group name for this assemblage of species is *Lasiochaeta* Corti, 1909 with its type species *Elachiptera pubescens* Thalhammer, 1898 as published with morphological annotations by Nartshuk & von Tschirnhaus (submitted). The species *Melanochaeta capreolus* was also described as *Oscinella coei* Nartshuk, 1965. The synonymy of both species was established by Nartshuk (1984) with the unexpressed consequence that *Oscinella* became a junior synonym of *Melanochaeta*. The problematic synonymy was indicated for the first time by von Tschirnhaus (1992, p. 482).

11. We propose that, in the interest of nomenclatural stability, the Commission rule to conserve the widely used generic name *Oscinella* Becker, 1909 by a reversal of precedence with *Melanochaeta* Bezzi, 1906 and its objective synonym *Pachychaetina* Hendel, 1907 under Article 23.9.3 of the Code.

12. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to rule that the name *Oscinella* Becker, 1909 is to be given precedence over the following generic names, whenever it and either of the other two are considered to be synonyms:

   (a) *Melanochaeta* Bezzi, 1906;
   (b) *Pachychaetina* Hendel, 1907;